

**STATISTICAL SUMMARIES OF STREAMFLOW DATA IN OREGON:
VOLUME 2--ANNUAL LOW AND HIGH FLOW, AND
INSTANTANEOUS PEAK FLOW**

By **Roy E. Wellman, Janice M. Gordon, and Robert L. Moffatt**

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ILLUSTRATIONS [Plate is in pocket]

Plate 1. Map showing location of streamflow gaging stations in Oregon.

CONVERSION FACTORS AND VERTICAL DATUM

To convert from	To	Multiply by
kilometer (km)	mile	0.6214
millimeter (mm)	inch	0.03937
square kilometer (km^2)	square mile	0.3861
cubic meter per second (m^3/s)	cubic foot per second	35.31

SEA LEVEL: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

STATISTICAL SUMMARIES OF STREAMFLOW DATA IN OREGON: VOLUME 2 -- ANNUAL LOW
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ABSTRACT

Statistical summaries of streamflow data at 358 stream-gaging sites are presented to aid in appraising the hydrology of river basins in Oregon. Records for 36 stream-gaging stations were compiled into separate periods because of changes in streamflow regulation during the period of data collection. Statistical summaries for the periods before and after regulation are presented for comparison.

A brief description is given on the physical and operational features for each stream-gaging station. Tables of annual low-flow and high-flow frequency data, and tables of instantaneous peak discharges for selected recurrence intervals also are shown.

INTRODUCTION

This is the second of two volumes of statistical summaries of streamflow data collected at stream-gaging stations in Oregon. Volume 1 contains statistical summaries of monthly and annual flow, and monthly and annual flow-duration information (Moffatt and others, 1990). This report contains annual low-flow and high-flow frequency analyses, and flood-frequency summaries.

The purpose of this report is to provide streamflow characteristics, based on historical data, to water-resource managers. This report was prepared in cooperation with the Oregon Water Resources Department (OWRD). The locations of stream-gaging stations are shown on plate 1.

STREAMFLOW RECORDS

A brief description of each gaging station outlining the physical and operational features of the site precedes the statistical summaries. Except for paragraphs describing revised records and extremes for a specific year, the station descriptions are identical to the 1987 published version in the annual release "Water Resources Data - Oregon" (U.S. Geological Survey, 1987 volumes 1 and 2). A detailed explanation of the station description and a definition of terms is given in that report. Data from active and discontinued gaging stations having a minimum of 10 years of daily mean-discharge values are shown in this report. For active stations, data through the 1987 water year are included in this report.

In addition to requiring 10 years of daily record to be included in these analyses, gaging-station records had to satisfy one of two criteria. The data had to be hydrologically transferable (for use in estimating streamflow in ungauged basins), or the data had to be a significant indicator of flow availability. For example, data from a gaging station at the outlet of a natural lake may have little hydrologic transferability

(owing to storage of water in the lake). The data, however, would be a good indication of low-flow availability as well as flood events, and would be included without the peak-low analyses.

The natural flow of a stream may be altered by the construction of a dam, an irrigation diversion, or by the augmentation of flow by transbasin diversions; If drainage basin conditions changed during the operation of a gaging station, statistical summaries that reflect both natural and altered states of flow are provided when there are at least 10 years of data for each basin condition.

STATISTICAL SUMMARY TABLES

The tables of statistical analyses include magnitude and probabilities of non-exceedance of low flows in nine duration classes, magnitude and probabilities of exceedances of high flows in seven duration classes, and magnitude and probabilities of exceedances of instantaneous peak flows. The period of record shown in the heading is the first and last water year for which daily mean discharge values are available, and does not necessarily indicate continuous record (see the PERIOD OF RECORD paragraph in the station description for fragmentary records). The value "n" shown in the tables represents the number of years of systematic record used in the respective computations of flow frequency. The statistical output in the low-flow and high-flow tables were generated by using computer programs available from the U.S. Geological Survey's (USGS) WATSTORE (National Water Data Storage and Retrieval System) and USGS's computer software ANNIE (Lumb and others, 1989). The statistical output in the instantaneous peak-flow tables were generated from annual instantaneous peak discharges using the USGS's computer software ANNIE.

Frequency Curves

A frequency curve is a graphical representation of the cumulative distribution of a random population of data. If a time series is used, magnitude is related to some recurrence interval. These populations, for this report, are the n-day (n equals number of days) high flow and n-day low flow mean values generated from daily mean flow values and the annual instantaneous peak flow. If individuals in the population are random and homogeneous, the frequency curve can be used as a probability curve, estimating a probability of exceedance or non-exceedance. Frequency curves are applied to a wide variety of water resource problems. High flow frequency curves are used for flood-plain zoning and the design of industrial and municipal water-supply systems, irrigations supplies, and as guidelines for minimal flow requirements. Many other applications have been made. Guidelines outlined by Hardison (1969) were used to determine the extension of frequency curves. The recurrence interval was extended to 25 years if the minimum years of station record equaled 15 years; 50 years if the minimum years of station record equaled 20 years; and 100 years if the minimum years of station record equaled 25 years.

Magnitude and Probability of Low Flows

The computation period for low-flow analysis is based on a climatic year which ends on March 31, thus assuring the low-flow season will be complete within a twelve-month period. The annual events of various duration were evaluated for randomness with Kendall Tau statistics, available in the ANNIE (Lumb and others, 1989), as a pre-processing step to frequency analysis 1989). Stations with Kendall Tau statistics indicating a 5 percent or less chance of annual flow events being independent were further studied to determine if the time periods were suitable for frequency analysis. Some stations exhibited apparent trends in the data as a result of climatic variability. Time periods were adjusted only if land use changes in the watershed could be verified.

The tabulations show annual-minimum mean flows for averaging periods of 1, 3, 7, 14, 30, 60, 90, 120, and 183 consecutive days (n-day mean flows) for recurrence intervals of 2, 5, 10, 20, 50, and 100 years. The associated annual non-exceedance probabilities are 50, 20, 10, 5, 2, and 1 percent. The annual minima are based on a climatic year. Recurrence intervals for low flows represent the average time between occurrences of annual minimum flows less than the stated flow magnitudes. Non-exceedance probability is the probability, or chance, expressed as a percentage, that the annual minimum flow will be less than the stated magnitude in any given year. For example, the low flow during a 30-day period might not be exceeded on the average of once every 50 years, and would have a 2 percent chance of not being exceeded in any given year.

Magnitude and Probability of High Flows

The computation period is based on a 12-month water year which ends September 30, after the occurrence of seasonal high-water events. Annual events of various durations were evaluated for randomness with Kendall Tau statistics, available in the ANNIE (Lumb and others, 1989) software package, as a pre-processing step to frequency analysis.

The tabulations show annual maximum mean flows for averaging periods of 1, 3, 7, 15, 30, 60, and 90 consecutive days (n-day mean flows) for recurrence intervals of 2, 5, 10, 25, 50, and 100 years. The associated annual exceedance probabilities are 50, 20, 10, 4, 2, and 1 percent. The annual minima are based on a climatic year. Recurrence intervals for high flows represent the average length of time between occurrences of annual high flows greater than the stated flow magnitudes. Exceedance probability is the probability, or chance, expressed as a percentage, that the annual high flow will be greater than the stated magnitude in any given year. Computed frequency points were checked to assure the 1-day high flows do not exceed peak-flow frequency points.

Magnitude and Probability of Instantaneous Peak Flows

The magnitude of instantaneous peak flows are listed in the statistical-summary tables for selected recurrence intervals as computed from a log-Pearson Type III probability distribution of peak flows using guidelines from Bulletin 17B of the U.S. Water Resources Council (1981). The years of systematic record were the determinants for choosing the

coefficient of skew computational method. For stations having less than 20 years of data, the frequency curve was based on a generalized skew coefficient. For stations having more than 20 years of data, the skew coefficient was determined by weighing the generalized skew against the skew of the systematic record of annual peaks as recommended by Bulletin 17B of the U.S. Water Resources Council (1981). The skew used for a particular station is shown at the bottom of the table. Procedures for including historic flood information were used where applicable. Historical peaks are data outside the period or periods of systematic data.

Major floods in western Oregon occur between October and March, when the majority of annual precipitation falls as winter rainstorms. In eastern Oregon, major floods can result from winter rainstorms, from spring melting of the winter snowpack, or from summer convective storms (U.S. Geological Survey, 1991). Western Oregon flood events were considered to result from a singular cause, winter rainstorms, and were treated as one population. Eastern Oregon flood events, resulting from different causes, could not be identified and separated objectively, and were not analyzed using a mixed-population analyses.

Flood-frequency statistics at gaging stations immediately downstream from dams and reservoirs are computed only for the non-regulated period, assuming there were 10 years of record available for the analysis.

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THE GREAT BASIN

WARNER LAKES BASIN

10366000 TWENTYMILE CREEK NEAR ADEL, OR

LOCATION.--Lat $42^{\circ}04'20''$, long $119^{\circ}57'42''$, in SW 1/4 NW 1/4 sec.25, T.40 S., R.23 E., Lake County, Hydrologic Unit 17120007, on left bank 1.5 mi downstream from Twelvemile Creek and 8 mi southwest of Adel.

DRAINAGE AREA.--194 mi², including 46 mi² in Cowhead Lake area.

PERIOD OF RECORD.-- March 1910 to July 1916, December 1917 to September 1919, and March 1921 to June 1922 (published as "near Warner Lake"), September 1940 to November 1944, March 1945 to 1987.

REVISED RECORDS.--WSP 1090: 1945. WSP 1514: 1951-53, 1954(M), WDR OR-85-1: 1963(P), 1965(P), 1970-71(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,560.83 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 21, 1940, nonrecording gage or water-stage recorder at sites within 1 mi downstream at various datums. Sept. 21, 1940, to Nov. 30, 1944, water-stage recorder at site 1.8 mi upstream at different datums. Mar. 12, 1945, to June 28, 1952, water-stage recorder at site 70 ft upstream at datum 0.88 ft higher.

REMARKS.--Some regulation by pumpage from Cowhead Lake. Diversions in Oregon for irrigation upstream from station; considerable diversions for irrigation in Cowhead Lake area in California.

AVERAGE DISCHARGE.--52 years (water years 1911-15, 1919, 1941-44, 1946-87), 54.1 ft³/s, 39,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s Feb. 18, 1986, gage height, 16.94 ft, on basis of slope-area measurement; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1946-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	42	2.1	1.2	0.8	0.6	0.4	0.3
3	42	2.2	1.3	1.0	0.7	0.5	0.4
7	42	2.4	1.6	1.2	0.9	0.7	0.6
14	42	2.7	1.8	1.4	1.2	0.9	0.8
30	42	3.0	2.1	1.7	1.4	1.1	1.0
60	42	3.2	2.4	2.1	1.8	1.6	1.4
90	42	3.6	2.7	2.4	2.2	1.9	1.8
120	42	4.1	3.1	2.7	2.4	2.2	2.0
183	42	5.5	3.9	3.5	3.2	3.0	2.8

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1911-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	915	1810	2440	3220	3780	4300
3	52	657	1310	1760	2290	2640	2970
7	52	468	915	1210	1550	1770	1970
15	52	329	621	806	1010	1140	1260
30	52	238	432	548	672	747	810
60	52	170	293	361	430	469	501
90	52	146	238	285	330	355	374

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
707	1460	3030	4470	6760	8860	11300	

Systematic n = 58 historical n = 0
Weighted skew = 0.043

WARNER LAKES BASIN

10370000 CAMAS CREEK NEAR LAKEVIEW, OR

LOCATION.--Lat 42°12'59", Long 120°06'05", in SE 1/4 NE 1/4 sec.3, T.39 S., R.22 E., Lake County, on left bank 0.2 mi downstream from Blue Creek and 12 mi east of Lakeview.

DRAINAGE AREA.--63 mi², approximately.

PERIOD OF RECORD.--September 1912 to November 1914, March to May 1915, December 1943 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 5,472.41 ft above National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Sept. 11, 1912, to May 9, 1915, water-stage recorder or nonrecording gage at site 500 ft upstream at different datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--25 years (1912-14, 1950-73), 46.6 ft³/s, 33,760 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,190 ft³/s Dec. 23, 1964, gage height, 7.32 ft, from rating curve extended above 410 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.90 ft³/s Aug. 16, 1960.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1914-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	3.4	2.1	1.6	1.2	0.9	--
3	23	3.5	2.2	1.6	1.3	0.9	--
7	23	3.6	2.2	1.7	1.3	1.0	--
14	23	3.8	2.4	1.8	1.4	1.1	--
30	23	4.0	2.6	2.0	1.6	1.2	--
60	23	4.4	2.9	2.3	1.8	1.4	--
90	23	4.9	3.2	2.5	2.1	1.6	--
120	23	5.6	3.7	2.9	2.3	1.8	--
183	23	8.4	5.3	4.0	3.2	2.4	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	373	633	868	1250	1610	2050
3	25	336	541	706	951	1160	1400
7	25	292	440	544	683	791	902
15	25	243	348	416	497	556	613
30	25	204	290	341	398	436	471
60	25	157	224	264	309	339	366
90	25	127	180	211	245	267	287

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1913-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
281	457	804	1120	1620	2100	2670	

Systematic n = 26 historical n = 0
Weighted skew = 0.523

WARNER LAKES BASIN

10371000 DRAKE CREEK NEAR ADEL, OR.

LOCATION.--Lat 42°12'00", Long 120°00'41", in NE 1/4 SW 1/4 sec. 9, T.39 S., R.23 E., Lake County, on right bank 800 ft downstream from highway bridge and Parsnip Creek, 1.0 mi upstream from mouth, and 6.5 mi west of Adel.

DRAINAGE AREA.--67 mi², approximately.

PERIOD OF RECORD.--March to May 1915, December 1922 to May 1923, December 1949 to December 1964, October 1975 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 5,075.94 ft above National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Mar. 18 to May 10, 1915 and Dec. 21, 1922, to May 9, 1923, nonrecording gage at site 800 ft upstream at different datums. Dec. 16, 1949, to June 21, 1951, at site 1,300 ft upstream at different datum. June 22, 1951, to Dec. 23, 1964, at site 20 ft upstream at datum 0.48 ft higher.

REMARKS.--Some regulation by two reservoirs upstream from station with combined capacity of 436 acre-ft. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--22 years (1950-64, 1965-73), 14.9 ft³/s, 10,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,210 ft³/s Dec. 23, 1964, gage height, 8.9 ft, present datum, result of slope-area measurement; minimum, 0.40 ft³/s Jan. 11, 1963, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1952-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	3.8	2.3	1.7	1.3	0.9	--
3	20	4.0	2.8	2.3	2.0	1.6	--
7	20	4.2	3.0	2.5	2.1	1.8	--
14	20	4.5	3.3	2.8	2.4	2.0	--
30	20	4.9	3.6	3.0	2.6	2.2	--
60	20	5.4	4.0	3.4	2.9	2.4	--
90	20	5.7	4.2	3.6	3.1	2.6	--
120	20	5.9	4.4	3.7	3.2	2.7	--
183	20	6.1	4.6	4.0	3.5	3.0	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1951-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	238	609	953	1490	1950	--
3	22	170	411	619	924	1170	--
7	22	117	272	403	593	746	--
15	22	78	178	264	390	495	--
30	22	52	112	162	237	299	--
60	22	36	70	96	132	161	--
90	22	30	55	74	100	120	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1951-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
229	564	1430	2350	4030	5740	--	

Systematic n = 23 historical n = 0
Weighted skew = 0.117

WARNER LAKES BASIN

10371500 DEEP CREEK ABOVE ADEL, OR

LOCATION.-- Lat $42^{\circ}11'21''$, long $120^{\circ}00'02''$, in SW 1/4 NW 1/4 sec.15, T.39 S., R.23 E., Lake County, Hydrologic Unit 17120007, on left bank 700 ft downstream from Drake Creek and 5 mi west of Adel.

DRAINAGE AREA.--249 mi².

PERIOD OF RECORD.--September 1922 to September 1923, October 1929 to 1987. Monthly discharge only October 1929 to September 1932, published in WSP 1314.

REVISED RECORDS.--WDR OR-83-1: 1979(M), 1980(M,P), 1982(M,P).

GAGE.--Water-stage recorder. Datum of gage is 4,980.34 ft above National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Sept. 8 to Dec. 20, 1922, nonrecording gage. Dec. 21, 1922, to Sept. 30, 1923, and Oct. 11, 1929, to Dec. 23, 1964, water-stage recorder at site 700 ft downstream at different datums. Jan. 20 to Sept. 30, 1965, nonrecording gage at site 2,000 ft downstream at different datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--59 years, 134 ft³/s, 97,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,420 ft³/s Dec. 23, 1964, gage height, 10.64 ft, from floodmark, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement of peak flow at gage height 7.3 ft; minimum discharge, 1.7 ft³/s July 20, 27-29, 1934.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	54	9.6	5.6	4.1	3.1	2.3	1.8
3	54	9.8	5.7	4.2	3.2	2.3	1.8
7	54	10	5.9	4.3	3.3	2.3	1.9
14	54	10	6.0	4.4	3.4	2.4	2.0
30	54	11	6.5	4.8	3.7	2.7	2.1
60	54	12	7.4	5.5	4.2	3.1	2.5
90	54	14	8.6	6.4	5.0	3.6	2.9
120	54	17	11	8.0	6.2	4.5	3.6
183	54	25	16	12	9.6	7.4	6.2

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1923-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	56	1060	2000	2790	3950	4940	6040
3	56	906	1560	2030	2640	3100	3570
7	56	757	1200	1480	1810	2040	2250
15	56	636	963	1150	1350	1480	1590
30	56	541	804	950	1100	1200	1280
60	56	449	651	753	852	909	954
90	56	375	542	627	711	760	800

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
629	1260	2530	3660	5420	6990	8800

Systematic n = 56 historical n = 0
Weighted skew = 0.025

WARNER LAKES BASIN

10378500 HONEY CREEK NEAR PLUSH, OR

LOCATION.--Lat 42°25'33", long 119°55'23", in SW 1/4 SW 1/4 sec.20, T.36 S., R.24 E., Lake County, Hydrologic Unit 17120007, on right bank 700 ft upstream from mouth of canyon, 1.4 mi northwest of Plush, and 4 mi downstream from Tweivemile Creek.

DRAINAGE AREA.--170 mi², approximately.

PERIOD OF RECORD.--May 1909 to September 1914 (prior to January 1910, gage heights only), March to May 1915, March to September 1921, March to June 1922, May 1930 to 1987. Monthly discharge only May 1930 to September 1949, published in WSP 1314.

REVISED RECORDS.--WSP 1564: 1911-12. WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,552.80 ft above National Geodetic Vertical Datum of 1929. Dec. 24, 1964, to Sept. 30, 1965, nonrecording gage at site 100 ft downstream at different datums. See WSP 1927 for history of changes prior to Dec. 24, 1964.

REMARKS.--Slight regulation by five small reservoirs, combined capacity, 870 acre-ft. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1911-14, 1931-87), 31.0 ft³/s, 22,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s Dec. 23, 1964, gage height, 13.4 ft, from floodmark, from rating curve extended above 250 ft³/s on basis of slope-area measurements at gage height 10.46 ft and of peak flow; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1912-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	40	0.3	0.2	0.1	0.1	0.1	0.1
3	40	0.3	0.2	0.1	0.1	0.1	0.1
7	40	0.4	0.2	0.1	0.1	0.1	0.1
14	40	0.4	0.2	0.2	0.1	0.1	0.1
30	40	0.6	0.3	0.2	0.2	0.1	0.1
60	40	0.9	0.4	0.3	0.2	0.1	0.1
90	40	1.3	0.6	0.4	0.3	0.2	0.1
120	40	2.0	0.9	0.6	0.4	0.3	0.2
183	40	4.1	2.2	1.5	1.1	0.8	0.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1911-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	42	333	721	1060	1570	2000	2480
3	42	275	533	722	968	1150	1330
7	42	220	398	515	655	750	837
15	42	179	302	374	449	495	533
30	42	147	239	287	332	357	376
60	42	116	187	226	264	287	305
90	42	97	155	186	217	235	249

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1910-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
175	454	1170	1930	3270	4600	6240	

Systematic n = 66 historical n = 0
Weighted skew = -0.009

ABERT LAKE BASIN

10384000 CHEWAUCAN RIVER NEAR PAISLEY, OR

LOCATION.--Lat 42°41'05", long 120°34'08", in SW 1/4 NW 1/4 sec.26, T.33 S., R.18 E., Lake County, Hydrologic Unit 17120006, on left bank 1.2 mi downstream from Mill Creek and 1.4 mi southwest of Paisley.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--April 1912 to September 1921, May 1924 to 1987. Published as "above Conn ditch, near Paisley" April to September 1912 and May 1924 to September 1955, as "above Mill Creek, near Paisley" October 1912 to December 1913, and as "at Chewaucan Land & Cattle Co.'s gage, near Paisley" January to September 1914.

REVISED RECORDS.--WSP 860: Drainage area. WSP 1927: 1957-59.

GAGE.--Water-stage recorder. Datum of gage is 4,430 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). See WSP 1734 for history of changes prior to Oct. 6, 1956.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--72 years, 148 ft³/s, 107,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,490 ft³/s Dec. 22, 1964, gage height, 8.35 ft, from rating curve extended above 900 ft³/s on basis of slope-area measurement of peak flow; no flow for part of each day Dec. 7, 1927, Dec. 12, 1932, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	33	23	16	13	11	8.9	7.7
3	33	24	17	14	11	9.1	7.8
7	33	25	18	15	12	10	8.6
14	33	27	19	16	14	11	9.7
30	33	29	21	18	15	12	11
60	33	31	24	21	18	16	14
90	33	34	27	23	21	18	17
120	33	38	30	27	24	22	21
183	33	46	37	33	30	27	25

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	63	816	1450	1910	2540	3030	3530
3	63	753	1280	1630	2060	2370	2660
7	63	682	1100	1350	1640	1820	1980
15	63	612	954	1140	1340	1460	1570
30	63	541	832	992	1160	1260	1340
60	63	439	680	818	967	1060	1140
90	63	361	558	673	801	884	957

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
585	982	1680	2250	3090	3800	4590	

Systematic n = 63 historical n = 0
Weighted skew = 0.143

SUMMER LAKE BASIN

10388001 ANA RIVER NEAR SUMMER LAKE, OR

LOCATION.--Lat 42°59'42" (revised), long 120°44'54" (revised), in SE 1/4 sec.6, T.30 S., R.17 E., Lake County, Hydrologic Unit 17120005, on left bank 300 ft downstream from diversion dam and 2.0 mi northeast of town of Summer Lake.

DRAINAGE AREA.--Indeterminate; Ana River Springs, source of the stream located three-quarters of a mile upstream from station, are flooded by pondage behind diversion dam.

PERIOD OF RECORD.--October 1929 to September 1939 (river only); June to September 1928, April 1931 to July 1938, and April 1940 to September 1942 (irrigation season records for Summer Lake Canal only); June 1951 to current year. Prior to June 1951 monthly discharge only, published in WSP 1314.

GAGE.--Water-stage recorder. Elevation of gage is 4,160 ft from plans of Ana River diversion dam. Oct. 1, 1929, to Sept. 30, 1939, at site 80 ft downstream at different datum.

REMARKS.--All records presented herein include flow in Summer Lake Canal which diverts 300 ft upstream from station for irrigation of lands along west side of Summer Lake. Flow regulated by gates at diversion dam.

AVERAGE DISCHARGE.--39 years (water years 1931-32, 1936, 1952-87), 90.8 ft³/s, 65,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 188 ft³/s Dec. 22, 1964, gage height, 2.81 ft, no flow in canal; minimum discharge, 1.0 ft³/s Jan. 21, 22, 1970; minimum daily, 3.0 ft³/s Oct. 31, 1970.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	15	58	50	46	42	--	--
3	15	63	55	50	45	--	--
7	15	68	60	56	53	--	--
14	15	72	68	67	66	--	--
30	15	77	75	74	73	--	--
60	15	81	79	78	77	--	--
90	15	82	80	79	79	--	--
120	15	83	81	81	80	--	--
183	15	84	83	83	83	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	17	113	126	134	143	--	--
3	17	110	118	123	128	--	--
7	17	104	111	115	119	--	--
15	17	99	105	109	114	--	--
30	17	96	102	106	111	--	--
60	17	94	99	103	108	--	--
90	17	93	97	101	105	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

SILVER LAKE BASIN

10390001 SILVER CREEK NEAR SILVER LAKE, OR

LOCATION.--Lat $43^{\circ}06'50''$, long $121^{\circ}03'59''$ in NE 1/4 SW 1/4 sec.28, T.28 S., R.14 E., Lake County, Hydrologic Unit 17120005, on right bank 1.5 mi downstream from diversion dam of Silver Lake Irrigation District, 1.5 mi southwest of town of Silver Lake, and 3 mi upstream from Bridge Creek.

DRAINAGE AREA.--180 mi², approximately.

PERIOD OF RECORD.--January 1905 to March 1907, January 1909 to September 1927, February to December 1928, February 1929 to 1987.

REVISED RECORDS.--WSP 1564: 1906, 1910, 1921(M). WSP 1734: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Sept. 15, 1932. Datum of gage is 4,361.22 ft above National Geodetic Vertical Datum of 1929. Prior to May 24, 1932, nonrecording gage or water-stage recorder at practically same location at datum 1.00 ft higher, or nonrecording gage at diversion dam outlet 1.5 mi upstream at different datum.

REMARKS.--Flow regulated by reservoir, capacity, 800 acre-ft, 1.5 mi upstream from station and by Thompson Valley Reservoir, capacity, 17,400 acre-ft, 11 mi upstream from station. Records given herein include flow in Silver Lake Irrigation District Canal which diverts 1.5 mi upstream from station. No record of diversion October 1943 to September 1965.

AVERAGE DISCHARGE.--75 years (water years 1906, 1910-27, 1930-41, 1944-87), 31.7 ft³/s, 22,970 acre-ft/yr, including diversion by Silver Lake Irrigation District Canal.

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 1,800 ft³/s Mar. 20, 1907, gage height, 10.08 ft, present datum, from rating curve extended above 700 ft³/s; maximum gage height, 10.3 ft Dec. 22, 1964; no flow at times in 1931-32, 1934, 1937.

Combined flow, maximum discharge, 1,800 ft³/s Mar. 20, 1907, gage height, 10.08 ft, present datum, from rating curve extended above 700 ft³/s; maximum gage height, 10.3 ft Dec. 22, 1964; no flow at times in 1931-32, 1934, 1937.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	2.9	1.4	0.9	0.6	0.4	--
3	21	3.1	1.5	0.9	0.6	0.4	--
7	21	3.4	1.7	1.1	0.7	0.5	--
14	21	3.7	1.9	1.3	0.9	0.6	--
30	21	4.0	2.2	1.6	1.2	0.9	--
60	21	4.9	2.9	2.2	1.7	1.3	--
90	21	5.6	3.5	2.7	2.1	1.6	--
120	21	6.8	4.2	3.2	2.5	1.9	--
183	21	9.5	6.1	4.8	3.9	3.1	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	203	423	611	894	1140	--
3	22	193	390	553	793	995	--
7	22	173	336	467	656	811	--
15	22	146	272	373	519	641	--
30	22	125	221	296	404	493	--
60	22	103	174	229	311	380	--
90	22	88	143	186	249	300	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

MALHEUR AND HARNEY LAKES BASIN

10393500 SILVIES RIVER NEAR BURNS, OR

LOCATION.-- Lat $43^{\circ}42'55''$, long $119^{\circ}10'35''$, in NW 1/4 NW 1/4 sec.31, T.21 S., R.30 E., Harney County, Hydrologic Unit 17120002, on left bank 5 mi downstream from Emigrant Creek and 11 mi northwest of Burns.

DRAINAGE AREA.--934 mi².

PERIOD OF RECORD.--May 1903 to July 1906, December 1908 to December 1912, March 1913 to September 1917 (irrigation seasons only), March 1918 to October 1920, March 1921 to July 1922 (irrigation seasons only), October 1922 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 4,195 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). See WSP 1734 for history of changes prior to Oct. 4, 1951.

REMARKS.--No regulation. Diversions for irrigation upstream from station during periods of high flow only.

AVERAGE DISCHARGE.--74 years (water years 1904-5, 1910-12, 1918-21, 1923-87), 181 ft³/s, 131,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s Apr. 6, 1952, gage height, 15.2 ft; no flow July 19 to Sept. 22, 1934.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	64	6.6	2.1	1.0	0.5	0.1	0.0
3	64	6.8	2.3	1.1	0.5	0.1	0.0
7	64	7.1	2.5	1.2	0.6	0.1	0.0
14	64	7.4	2.8	1.6	0.9	0.2	0.0
30	64	7.9	3.4	2.1	1.3	0.5	0.0
60	64	9.4	4.3	2.8	1.9	0.8	0.0
90	64	13	5.3	3.1	1.8	1.0	0.6
120	64	15	6.9	4.4	2.9	1.8	1.3
183	64	22	12	8.1	5.8	3.8	2.9

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1904-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	73	1280	2190	2690	3210	3510	3760
3	73	1210	2090	2590	3120	3440	3700
7	73	1090	1900	2370	2870	3170	3420
15	73	940	1660	2080	2540	2820	3060
30	73	787	1390	1760	2160	2400	2610
60	73	605	1060	1350	1660	1860	2040
90	73	483	851	1090	1360	1540	1700

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1904-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
747	1310	2230	2920	3860	4590	5360	

Systematic n = 81 historical n = 0
Weighted skew = -0.179

MALHEUR AND HARNEY LAKES BASIN

10396000 DONNER UND BLITZEN RIVER NEAR FRENCHGLEN, OR

LOCATION.--Lat $42^{\circ}47'28''$, long $118^{\circ}52'00''$, in NW 1/4 NW 1/4 sec.20, T.32 S., R.32-1/2 E., Harney County, Hydrologic Unit 17120003, Bureau of Land Management land, on left bank 1.5 mi upstream from upper diversions for Malheur National Wildlife Refuge, 2.0 mi downstream from Fish Creek, and 3.5 mi southeast of Frenchglen.

DRAINAGE AREA.--200 mi², approximately.

PERIOD OF RECORD.--March 1911 to September 1913, March 1914 to September 1916, April 1917 to September 1921, August to November 1929, April to September 1930, December 1937 to 1987. Monthly discharge only for some periods, published in WSP 1314. Published as "near Diamond" 1911-21. Records of discharge for January 1909 to September 1910 (published in WSP 270, 290, and 370, for a nonequivalent site as "near Diamond") have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 330: Drainage area (former site). WSP 860: Drainage area (present site). WSP 1564: 1938-39(M), 1942-43(M), 1948(M), 1951(P), 1952-53. WSP 1714: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,254 ft above National Geodetic Vertical Datum of 1929 (levels by Fish and Wildlife Service). Prior to December 1937, nonrecording gage at several sites within 2 mi downstream at different datums. Dec. 6, 1937, to Feb. 14, 1938, nonrecording gage at present site and datum.

REMARKS.--No regulation or diversion upstream from station. Water-quality records for period March 1985 to September 1986 have been collected at this location.

AVERAGE DISCHARGE.--57 years (water years 1912-13, 1915-16, 1918-21, 1939-87), 128 ft³/s, 92,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,270 ft³/s Apr. 26, 1978, gage height, 7.15 ft, from floodmarks, from rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 4.2 ft³/s Dec. 9, 1972, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	49	23	17	15	13	11	10
3	49	27	20	18	15	13	12
7	49	31	24	20	18	16	14
14	49	34	27	24	22	20	18
30	49	37	30	27	25	23	21
60	49	38	31	28	26	23	22
90	49	40	32	29	27	25	23
120	49	41	34	30	28	26	24
183	49	45	37	33	30	28	26

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	57	848	1290	1600	1990	2280	2580
3	57	685	996	1190	1430	1590	1750
7	57	576	807	947	1110	1220	1330
15	57	483	670	783	913	1000	1090
30	57	415	575	673	789	869	946
60	57	346	468	539	620	673	723
90	57	297	399	457	522	565	604

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
825	1370	2150	2670	3320	3790	4250	

Systematic n = 61 historical n = 0
Weighted skew = -0.381

MALHEUR AND HARNEY LAKES BASIN

10397000 BRIDGE CREEK NEAR FRENCHGLEN, OR

LOCATION.--Lat 42°50'38", Long 118°50'57", in SW 1/4 NW 1/4 sec.33, T.31 S., R.32 1/2 E., Harney County, Hydrologic Unit 17120003, on right bank at mouth of canyon, 3.5 miles northeast of Frenchglen.

PERIOD OF RECORD.--March to August 1911, January 1912 to September 1916, April to June 1930, December 1937 to September 1970. Monthly discharge only April to June 1930, published in WSP 1314. Published as "near Diamond" 1911-1916.

DRAINAGE AREA.--30 mi², approximately.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,184.93 ft above National Geodetic Vertical Datum of 1929 (levels by Fish and Wildlife Service). Prior to Dec. 21, 1937, nonrecording gage at sites within 1 mi upstream at different datums. Dec. 21, 1937, to May 17, 1938, nonrecording gage at site 1,000 ft downstream at different datum. May 18, 1938, to Aug. 22, 1939, nonrecording gage at present site and datum.

REMARKS.--No regulation or diversion upstream from station. Low-water flow is sustained by large springs.

AVERAGE DISCHARGE.--36 years (1912-16, 1938-70), 13.5 ft³/s, 9,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 301 ft³/s May 19, 1953, gage height, 2.73 ft, from rating curve extended above 65 ft³/s; minimum, 4.2 ft³/s Feb. 25, 1962.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1970

[Short-duration statistics uncertain due to excessive skew]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	36	10	8.3	7.3	6.5	5.6	5.1
90	36	11	8.6	7.6	6.7	5.8	5.3
120	36	11	8.8	7.7	6.9	6.0	5.4
183	36	11	9.4	8.3	7.5	6.6	6.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	36	45	77	101	133	159	185
3	36	34	57	74	99	120	143
7	36	29	45	57	74	88	103
15	36	26	38	45	55	62	70
30	36	24	33	39	46	52	57
60	36	20	27	32	38	43	47
90	36	18	24	28	32	36	40

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
41	88	175	245	343	423	507	

Systematic n = 39 historical n = 0
Weighted skew = -0.320

MALHEUR AND HARNEY LAKE BASIN

10403000 SILVER CREEK NEAR RILEY, OR

LOCATION.--Lat $43^{\circ}41'30''$, long $119^{\circ}39'30''$, in E 1/2 sec.1, T.22 S., R.25 E., Harney County, Hydrologic Unit 17120004, on right bank 0.4 mi downstream from Rough Creek, 1.4 mi upstream from Nicoll Creek, and 14 mi northwest of Riley. DRAINAGE AREA.--228 mi².

PERIOD OF RECORD.--June 1951 to September 1980.

GAGE.--Water-stage recorder. Datum of gage is 4,449.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--29 years, 42.8 ft³/s, 31,010 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,810 ft³/s Dec. 22, 1964, gage height, 7.49 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1953-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		2	5	10	20	50	100
1	28	1.2	0.5	0.0	0.0	0.0	0.0
3	28	1.4	0.5	0.2	0.0	0.0	0.0
7	28	1.4	0.5	0.2	0.1	0.0	0.0
14	28	1.6	0.5	0.2	0.1	0.0	0.0
30	28	1.7	0.7	0.3	0.2	0.1	0.0
60	28	1.9	1.0	0.7	0.5	0.3	0.2
90	28	2.3	1.4	1.0	0.8	0.6	0.5
120	28	2.7	1.8	1.4	1.2	0.9	0.8
183	28	3.8	2.8	2.3	1.9	1.6	1.4

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1952-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		2	5	10	25	50	100
1	29	460	768	972	1220	1400	1570
3	29	413	687	871	1100	1260	1410
7	29	348	580	735	926	1060	1190
15	29	285	486	619	780	894	1000
30	29	226	386	487	601	677	746
60	29	167	280	345	415	457	493
90	29	131	216	264	314	344	368

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1952-1980

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
315	590	1040	1360	1790	2110	2430	

Systematic n = 29 historical n = 0
Weighted skew = -0.376

ALVORD LAKE BASIN

10406500 TROUT CREEK NEAR DENIO, NV

LOCATION.--Lat 42°09'20", long 118°27'14", in NW 1/4 SE 1/4 sec.26, T.39 S., R.36 E., Harney County, Hydrologic Unit 17120009, on right bank 0.4 mi upstream from bridge at mouth of canyon, 5 mi east of Trout Creek Ranch, and 14 mi northeast of Denio.

DRAINAGE AREA.--88 mi², approximately.

PERIOD OF RECORD.--March 1911 to March 1912, April 1922 to November 1923, March 1925 to September 1931 (irrigation seasons only), April 1932 to 1987. Prior to Oct. 1, 1961, published as "near Denio, Oreg."

REVISED RECORDS.--WSP 1564: 1932, 1933-34(M), 1938(M). WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,351.52 ft above National Geodetic Vertical Datum of 1929. Mar. 25, 1911, to Mar. 31, 1912, nonrecording gage at bridge 0.4 mi downstream at different datum. Apr. 28, 1922, to June 14, 1932, water-stage recorder at site 10 ft upstream at datum 0.50 ft higher.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--56 years (water years 1923, 1933-87), 16.8 ft³/s, 12,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 470 ft³/s Aug. 1, 1933, gage height, 5.26 ft, from rating curve extended above 230 ft³/s; minimum discharge observed, 0.10 ft³/s Aug. 4, 1930, Aug. 1, Sept. 12, 28, 1934. Probably no flow at times Sept. 1-19, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 6.0 ft, caused by cloudburst, probably occurred in 1924 or 1925.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	54	2.3	1.1	0.6	0.4	0.2	0.2
3	54	2.4	1.1	0.7	0.4	0.2	0.2
7	54	2.6	1.2	0.7	0.5	0.3	0.2
14	54	2.8	1.3	0.8	0.5	0.3	0.2
30	54	3.2	1.6	1.0	0.6	0.3	0.2
60	54	3.8	2.0	1.2	0.7	0.4	0.2
90	54	4.1	2.4	1.7	1.2	0.8	0.6
120	54	4.5	2.9	2.1	1.6	1.2	0.9
183	54	5.1	3.6	2.9	2.5	2.0	1.7

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	55	95	162	211	277	328	380
3	55	92	154	195	247	283	319
7	55	85	141	174	213	238	260
15	55	76	125	154	187	208	226
30	55	65	106	132	161	180	196
60	55	51	83	103	126	141	155
90	55	41	67	83	102	115	127

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1933-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
66	115	200	266	362	441	528	

Systematic n = 55 historical n = 0
Weighted skew = -0.006

PACIFIC SLOPE BASINS IN CALIFORNIA

GOOSE LAKE BASIN

11339500 DREWS CREEK NEAR LAKEVIEW, OR

LOCATION.--Lat 42°07'10", long 120°34'45", in NW 1/4 NE 1/4 sec.10, T.40 S., R.18 E., Lake County, Hydrologic Unit 18020001, on left bank 10 ft upstream from bridge, 2.0 mi downstream from Willow Creek, 2.7 mi downstream from Drews Dam, and 13 mi southwest of Lakeview.

DRAINAGE AREA.--212 mi².

PERIOD OF RECORD.--January 1909 to September 1930 (yearly estimate only for 1920), March 1931 to September 1936 (irrigation seasons only), April 1937 to September 1938, March 1939 to October 1941, February 1942, April 1942 to September 1952, February 1953 to September 1981. Monthly discharge only October 1921 to September 1925, published in WSP 1315-A. Published as Drew Creek near Lakeview October 1918 to September 1959.

GAGE.--Water-stage recorder. Datum of gage is 4,827.0 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). See WSP 1931 for history of changes prior to July 4, 1953.

REMARKS.--Record herein, except average discharge, not adjusted for diversion by North Drews Canal. Since 1912, flow regulated by Drews Reservoir, capacity, 62,550 acre-ft. Diversion for irrigation upstream from station, and since March 1914, North Drews Canal has diverted upstream from station for irrigation of lands west of Lakeview. Records subsequent to September 1981 in files of Oregon Water Resources Department.

AVERAGE DISCHARGE.--50 years (water years 1913-30, 1938, 1940-41, 1947, 1954-81), 70.6 ft³/s, 51,150 acre-ft/yr, including diversion by North Drews Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3000 ft³/s Mar. 1, 2, 1910, from rating curve extended above 1,200 ft³/s; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1939-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	38	0.8	0.3	0.2	0.0	0.0	0.0
3	38	0.8	0.3	0.2	0.0	0.0	0.0
7	38	0.9	0.3	0.2	0.0	0.0	0.0
14	38	1.0	0.4	0.2	0.0	0.0	0.0
30	38	1.2	0.5	0.3	0.2	0.1	0.1
60	38	1.2	0.7	0.5	0.4	0.3	0.3
90	38	1.7	0.9	0.6	0.5	0.3	0.3
120	38	2.5	1.1	0.7	0.5	0.3	0.3
183	38	5.3	2.5	1.7	1.3	0.9	0.7

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	54	255	636	993	1560	2060	2620
3	54	250	616	951	1470	1920	2410
7	54	240	582	885	1340	1720	2140
15	54	215	509	767	1150	1470	1810
30	54	176	404	602	898	1150	1420
60	54	133	290	423	620	784	963
90	54	111	231	329	469	582	702

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1913-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1780	2380	3150	3610	4170	4560	4940	

Systematic n = 67 historical n = 0
Weighted skew = -0.199

GOOSE LAKE BASIN

11340500 COTTONWOOD CREEK NEAR LAKEVIEW, OR

LOCATION.--Lat $42^{\circ}14'14''$, long $120^{\circ}30'16''$, in SE 1/4 SW 1/4 sec.29, T.38 S., R.19 E., Lake County, Hydrologic Unit 18020001, on right bank 0.5 mi downstream from Cottonwood Dam and 9 mi northwest of Lakeview.

DRAINAGE AREA.--32.9 mi².

PERIOD OF RECORD.--November 1908 to September 1919, May 1924 to November 1935, March to December 1936, April to December 1937, April 1938 to November 1942, March to November 1943, March to October 1944, February to November 1945, March 1946 to September 1981. Monthly discharge only May 1924 to September 1925, published in WSP 1315-A.

CAGE.--Water-stage recorder. Datum of gage is 4,949.37 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to June 1, 1919, and May 1, 1924, to June 3, 1932, nonrecording gage at several sites within 0.6 mi upstream at different datums. June 1 to Sept. 30, 1919, and June 4, 1932, to Sept. 14, 1961, water-stage recorder at site 0.6 mi upstream at different datums.

REMARKS.--Flow regulated since 1923 by Cottonwood Reservoir, capacity, 7,540 acre-ft. Since October 1961, 240 acre-ft unregulated storage in Cottonwood Meadows, 9 mi upstream. Diversions for irrigation upstream from station. Records subsequent to September 1981 in files of Oregon Water Resources Department.

AVERAGE DISCHARGE.--60 years (water years 1910-19, 1925-35, 1939-42, 1947-81), 21.1 ft³/s, 15,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, between 500 and 1,000 ft³/s during period Apr. 26 to May 1, 1927, when natural flow, estimated as 170 ft³/s, was augmented by water escaping from reservoir through break in outlet conduit near control gates; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1910-1919

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	1.4	0.7	0.4	--	--	--
3	10	1.5	0.8	0.5	--	--	--
7	10	1.6	0.9	0.6	--	--	--
14	10	1.8	1.1	0.8	--	--	--
30	10	2.2	1.6	1.4	--	--	--
60	10	2.7	2.0	1.7	--	--	--
90	10	3.2	2.3	1.9	--	--	--
120	10	4.2	2.8	2.2	--	--	--
183	10	5.3	3.5	2.9	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1910-1919

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	225	297	345	--	--	--
3	10	198	247	273	--	--	--
7	10	166	208	234	--	--	--
15	10	139	176	198	--	--	--
30	10	121	151	166	--	--	--
60	10	98	128	143	--	--	--
90	10	80	108	123	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1919

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
189	248	327	378	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.031

GOOSE LAKE BASIN

11340500 COTTONWOOD CREEK NEAR LAKEVIEW, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		0.3	0.0	0.0	0.0	0.0	0.0
1	49	0.3	0.0	0.0	0.0	0.0	0.0
3	49	0.3	0.0	0.0	0.0	0.0	0.0
7	49	0.4	0.0	0.0	0.0	0.0	0.0
14	49	0.4	0.1	0.0	0.0	0.0	0.0
30	49	0.5	0.2	0.0	0.0	0.0	0.0
60	49	1.1	0.4	0.2	0.1	0.0	0.0
90	49	1.3	0.5	0.3	0.1	0.0	0.0
120	49	1.6	0.7	0.4	0.2	0.1	0.1
183	49	2.5	1.2	0.8	0.6	0.4	0.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		111	195	253	328	382	435
1	50	103	178	229	295	343	390
3	50	91	152	193	245	284	321
7	50	78	124	155	193	220	246
15	50	63	102	128	160	184	207
30	50	53	85	105	130	148	164
60	50	47	75	91	110	123	134
90	50						

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

KLAMATH RIVER BASIN

11493500 WILLIAMSON RIVER NEAR KLAMATH AGENCY, OR

LOCATION.--Lat $42^{\circ}44'25''$, long $121^{\circ}50'00''$, in NW 1/4 SW 1/4 sec.1, T.33 S., R.7 E., Klamath County, Hydrologic Unit 18010201, on right bank 250 ft downstream from highway bridge, 0.6 mi southwest of railroad station at Kirk, 10 mi upstream from Spring Creek, and 10 mi northeast of Klamath Agency.

DRAINAGE AREA.--1,290 mi², approximately.

PERIOD OF RECORD.--March 1908 to January 1909, April 1909 to June 1910, October 1954 to 1987. Monthly discharge only June 1910, published in WSP 1315-B.

REVISED RECORDS.--WSP 1565: 1908-9.

GAGE.--Water-stage recorder. Datum of gage is 4,483.16 ft above National Geodetic Vertical Datum of 1929. Mar. 25, 1908, to June 30, 1910, nonrecording gage or water-stage recorder at two sites about 0.5 mi upstream at different datums. Oct. 1, 1954, to Sept. 30, 1955, water-stage recorder at present site at datum 2.05 ft higher.

REMARKS.--Flow affected by natural storage in Klamath Marsh. Small diversions upstream from station for irrigation in vicinity of marsh.

AVERAGE DISCHARGE.--33 years (water years 1955-87), 212 ft³/s, 153,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 1,590 ft³/s Mar. 13, 1910, gage height, 3.7 ft, site and datum then in use, from rating curve extended above 800 ft³/s; maximum gage height, 5.57 ft Mar. 3, 1958; no flow at times during 1960-74, 1977-81.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	32	0.0	0.0	0.0	0.0	0.0	0.0
3	32	0.0	0.0	0.0	0.0	0.0	0.0
7	32	0.0	0.0	0.0	0.0	0.0	0.0
14	32	0.0	0.0	0.0	0.0	0.0	0.0
30	32	0.0	0.0	0.0	0.0	0.0	0.0
60	32	0.0	0.0	0.0	0.0	0.0	0.0
90	32	0.2	0.0	0.0	0.0	0.0	0.0
120	32	4.9	0.0	0.0	0.0	0.0	0.0
183	32	45	8.4	2.5	0.7	0.2	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	33	694	944	1080	1240	1340	1430
3	33	689	937	1080	1230	1330	1420
7	33	676	921	1060	1210	1310	1400
15	33	654	889	1020	1170	1270	1350
30	33	607	823	947	1090	1180	1260
60	33	524	717	834	970	1060	1150
90	33	458	629	737	866	959	1050

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1955-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
518	702	945	1100	1290	1430	1570

Systematic n = 33 historical n = 0
Weighted skew = -0.091

KLAMATH RIVER BASIN

11497500 SPRAGUE RIVER NEAR BEATTY, OR

LOCATION.--Lat 42°26'50", long 121°14'15", in NW 1/4 SE 1/4 sec.13, T.36 S., R.12 E., Klamath County, Hydrologic Unit 18010202, on right bank 1.6 mi east of Beatty, and 4.6 mi upstream from Sycan River.

DRAINAGE AREA.--513 mi².

PERIOD OF RECORD.--April to September 1912 and November 1912 to September 1913 (fragmentary), October 1913 to September 1915, February to November 1916, March 1917 to June 1918, May 1919 to October 1920, February 1921 to September 1926 (irrigation seasons only), October 1953 to 1987. Monthly discharge only October 1913, published in WSP 1315-B. Prior to October 1917, published as "near Yainax."

REVISED RECORDS.--WSP 1315-B: 1917(M).

GAGE.--Water-stage recorder. Datum of gage is 4,305.35 ft above National Geodetic Vertical Datum of 1929. Apr. 19, 1912, to Feb. 19, 1914, nonrecording gage, Feb. 20, 1914, to Sept. 11, 1917, water-stage recorder, and Sept. 12, 1917, to Sept. 30, 1926, nonrecording gage, at site 2 mi upstream at different datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station in the vicinity of Bly.

AVERAGE DISCHARGE.--37 years (water years 1914-15, 1920, 1954-87), 314 ft³/s, 227,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,980 ft³/s Dec. 23, 1964, gage height, 12.19 ft; minimum discharge, 50 ft³/s Aug. 25, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	33	99	80	70	63	56	51
3	33	101	81	72	65	58	53
7	33	103	84	74	67	59	54
14	33	106	86	77	69	62	57
30	33	112	91	82	74	66	61
60	33	120	101	92	85	77	73
90	33	129	110	102	95	88	83
120	33	137	119	111	105	99	95
183	33	155	137	130	124	119	116

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1954-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	1390	2400	3140	4120	4890	5670
3	34	1230	2110	2770	3650	4340	5050
7	34	1050	1760	2260	2920	3420	3920
15	34	930	1460	1800	2210	2500	2780
30	34	808	1230	1490	1800	2010	2200
60	34	676	1020	1230	1480	1660	1820
90	34	599	893	1080	1300	1450	1590

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1954-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
838	1480	2590	3440	4660	5650	6710	

Systematic n = 34 historical n = 0
Weighted skew = -0.079

KLAMATH RIVER BASIN

11501000 SPRAGUE RIVER NEAR CHILOQUIN, OR

LOCATION.--Lat $42^{\circ}35'05''$, long $121^{\circ}50'55''$, in NE 1/4 NW 1/4 sec.35, T.34 S., R.7 E., Klamath County, Hydrologic Unit 18010202, on right bank 1.0 mi northeast of Chiloquin, 4.6 mi upstream from Modoc Point Canal intake, and at mile 5.4.

DRAINAGE AREA.--1,580 mi², approximately.

PERIOD OF RECORD.--July to October 1920, March 1921 to 1987. Monthly discharge only July 1920, published in WSP 1315-B. Prior to October 1931, published as "at McCready Ranch, near Chiloquin."

REVISED RECORDS.--WSP 591: 1922 (M). WSP 1011: 1943 (M). WSP 1565: 1921-22.

GAGE.--Water-stage recorder. Datum of gage is 4,202.43 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, nonrecording gage at site 12 mi upstream at different datum.

REMARKS.--Minor regulation from irrigation diversions upstream from station.

AVERAGE DISCHARGE.--66 years (water years 1922-87), 589 ft³/s, 426,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft³/s Dec. 26, 1964, gage height, 10.37 ft; minimum daily discharge, 50 ft³/s May 26, 1926.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	56	180	137	118	103	89	80	
3	56	186	142	122	107	92	83	
7	56	194	149	129	114	99	90	
14	56	200	156	136	121	105	96	
30	56	210	167	147	133	117	108	
60	56	222	179	160	145	130	121	
90	56	236	192	172	156	140	131	
120	56	251	205	184	168	152	141	
183	56	289	235	210	191	171	159	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1922-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	66	2050	3910	5500	7960	10100	12600	
3	66	1980	3740	5230	7480	9430	11600	
7	66	1810	3340	4590	6420	7970	9680	
15	66	1590	2840	3810	5180	6290	7480	
30	66	1370	2400	3170	4250	5100	6010	
60	66	1170	1980	2570	3380	4010	4670	
90	66	1050	1720	2210	2870	3380	3920	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1921-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1120	2090	3980	5600	8100	10300	12800	

Systematic n = 67 historical n = 0
Weighted skew = 0.091

KLAMATH RIVER BASIN

11502500 WILLIAMSON RIVER BELOW SPRAGUE RIVER, NEAR CHILOQUIN, OR

LOCATION.--Lat $42^{\circ}34'15''$, long $121^{\circ}52'35''$, in NE 1/4 NE 1/4 sec.4, T.35 S., R.7 E., Klamath County, Hydrologic Unit 18010202, on right bank 0.2 mi downstream from Sprague River and 0.8 mi southwest of Chiloquin.

DRAINAGE AREA.--3,000 mi², approximately.

PERIOD OF RECORD.--June 1917 to 1987.

REVISED RECORDS.--WSP 981: 1938(M). WSP 1565: 1920(M), 1927(M), 1938.

GAGE.--Water-stage recorder. Datum of gage is 4,155.55 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1923, at different datum.

REMARKS.--Some regulation by diversion dams and logpond operations of Sprague River. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--70 years, 1,061 ft³/s, 768,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft³/s Dec. 26, 1964, gage height, 10.56 ft; minimum discharge, 320 ft³/s Oct. 14, 1920.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	63	482	425	402	386	371	362
3	63	488	430	407	390	375	366
7	63	497	441	418	402	387	378
14	63	505	450	428	412	398	389
30	63	516	462	442	429	416	409
60	63	529	475	455	442	430	423
90	63	544	488	467	453	441	435
120	63	565	503	480	466	453	446
183	63	625	545	515	495	477	467

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1918-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	69	2870	4880	6550	9060	11200	13700
3	69	2780	4700	6280	8650	10700	13000
7	69	2600	4310	5680	7670	9370	11200
15	69	2370	3810	4900	6420	7670	9010
30	69	2140	3340	4220	5430	6400	7420
60	69	1880	2850	3550	4480	5220	5980
90	69	1710	2530	3120	3900	4520	5150

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1917-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1860	3000	5030	6690	9180	11300	13700	

Systematic n = 70 historical n = 0
Weighted skew = 0.264

KLAMATH LAKE BASIN

11503000 ANNIE SPRING NEAR CRATER LAKE, OR

LOCATION.--Lat 42°52'20", long 122°10'00", unsurveyed, Klamath County, Hydrologic Unit 18010203, in Crater Lake National Park, at highway bridge 0.1 mi downstream from source.

DRAINAGE AREA.--Indeterminate, normal flow is entirely from Annie Spring.

PERIOD OF RECORD.--June 1977 to 1987. Discharge measurement and fragmentary gage-height record August to October 1913. Discharge measurements only Oct. 11, 1967, June 26, Sept. 13, 1968.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 5,982.65 ft above National Geodetic Vertical Datum of 1929 (National Park Service bench mark).

REMARKS.--Fluctuations caused by pumps 0.1 mi upstream. Diversion for domestic use by National Park Service 0.1 mi upstream.

COOPERATION.--Records of diversion by pumping furnished by National Park Service.

AVERAGE DISCHARGE.--10 years, 3.20 ft³/s, 2,320 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18 ft³/s July 6, 1984, gage height, 1.56 ft; minimum discharge, 0.33 ft³/s Nov. 20, 22, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	9.9	14	17	--	--	--
3	10	9.8	14	17	--	--	--
7	10	9.6	14	16	--	--	--
15	10	9.3	13	15	--	--	--
30	10	8.7	12	14	--	--	--
60	10	7.5	10	12	--	--	--
90	10	6.4	8.6	10	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

KLAMATH LAKE BASIN

11504000 WOOD RIVER AT FORT KLAMATH, OR

LOCATION.--Lat 42°42'05", long 121°59'20", in sec.22, T.33 S., R.7 1/2 E., Klamath County, Hydrologic Unit 18010203, at highway bridge 0.2 mi east of Fort Klamath.

DRAINAGE AREA.--90 mi², approximately.

PERIOD OF RECORD.--April 1913 to September 1916, October 1918 to September 1919, October 1923 to September 1936.

GAGE.--Staff gage. Datum of gage is 4,166.65 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 21, 1923, near described site at datum 0.19 ft lower. Aug. 21 to Sept. 30, 1923, 0.2 mi downstream at different datum. Oct. 1, 1923 to Sept. 30, 1925, at described site at datum 0.81 ft higher.

REMARKS.--Many diversions for irrigation upstream from station. Regulation by diversion dams.

AVERAGE DISCHARGE.--17 years (water years 1914-16, 1919, 1924-36), 215 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 520 ft³/s Nov. 17, 1920, gage height, 2.41 ft, from rating curve extended above 350 ft³/s; minimum, 84 ft³/s in July, August, September, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1915-1936

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	15	141	109	96	87	--	--	
3	15	144	111	98	89	--	--	
7	15	148	114	99	89	--	--	
14	15	151	116	102	92	--	--	
30	15	155	119	104	93	--	--	
60	15	160	123	107	96	--	--	
90	15	167	128	112	100	--	--	
120	15	174	133	116	103	--	--	
183	15	182	144	127	114	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1936

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	18	351	407	435	464	--	--	
3	18	320	366	390	415	--	--	
7	18	296	342	367	396	--	--	
15	18	277	322	348	380	--	--	
30	18	260	305	332	366	--	--	
60	18	248	292	319	351	--	--	
90	18	243	287	314	346	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1936

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
310	361	424	463	509	542	--	

Systematic n = 22 historical n = 0
Weighted skew = 0.175

KLAMATH RIVER BASIN

11509500 KLAMATH RIVER AT KENO, OR

LOCATION.--Lat $42^{\circ}08'00''$, long $121^{\circ}57'40''$, in NW 1/4 SE 1/4 sec.35, T.39 S., R.7 E., Klamath County, Hydrologic Unit 18010206, on left bank 1.7 mi northwest of Keno and 4.5 mi upstream from Spencer Creek.

DRAINAGE AREA.--3,920 mi², approximately (not including Lost River or Lower Klamath Lake basins).

PERIOD OR RECORD.--June 1904 to December 1913, October 1929 to 1987. Monthly discharge only October to December 1929, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 3,961 ft above National Geodetic Vertical Datum of 1929 (from river-profile survey). See WSP 1735 for history of changes prior to Nov. 6, 1954.

REMARKS.--Flow regulated since 1919 by Upper Klamath Lake (station 11507001). Fluctuation by Keno powerplant 0.9 mi upstream. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--67 years, 1,705 ft³/s, 1,235,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s Feb. 28, 1986, gage height, 12.82 ft, caused by regulation from Keno powerplant 0.9 mi upstream; minimum discharge, 26 ft³/s Sept. 23, 1956; minimum daily, 60 ft³/s May 19, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 15.3 ft, from floodmark (original datum), about May 10, 1904, discharge, 9,250 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	57	254	147	110	87	67	56
3	57	310	184	141	113	88	75
7	57	340	205	159	130	104	90
14	57	369	223	174	143	115	100
30	57	425	267	212	177	145	128
60	57	505	324	259	216	176	154
90	57	629	409	322	262	206	174
120	57	754	495	385	308	235	195
183	57	1000	678	533	429	328	271

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	58	4060	6390	8120	10500	12400	14400
3	58	3960	6260	7960	10300	12200	14100
7	58	3780	6050	7720	10000	11800	13700
15	58	3480	5600	7180	9370	11100	13000
30	58	3170	5080	6530	8540	10200	11900
60	58	2770	4390	5550	7120	8360	9640
90	58	2500	3920	4940	6310	7390	8520

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

KLAMATH RIVER BASIN

11510700 KLAMATH RIVER BELOW JOHN C. BOYLE POWERPLANT, NEAR KENO, OR

LOCATION.--Lat 42°05'05", long 122°04'20", in SE 1/4 SE 1/4 sec.14, T.40 S., R.6 E., Klamath County, Hydrologic Unit 18010206, on right bank 0.7 mi downstream from John C. Boyle powerplant, 8 mi downstream from Spencer Creek, and 8.5 mi southwest of Keno.

DRAINAGE AREA.--4,080 mi², approximately (not including Lost River or Lower Klamath Lake basins).

PERIOD OF RECORD.-- January 1959 to 1987. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

GAGE.--Water-stage recorder. Datum of gage is 3,274.82 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--Flow regulated by Upper Klamath Lake (station 11507001). Large diurnal fluctuation caused by Keno and John C. Boyle powerplants. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years, 1,928 ft³/s, 1,397,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s Mar. 5, 1972, gage height, 9.33 ft; minimum discharge, 283 ft³/s Feb. 17, 1968; minimum daily, 317 ft³/s July 25, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	370	332	322	316	312	311
3	26	409	359	342	332	325	321
7	26	480	433	418	410	403	400
14	26	520	480	469	462	458	456
30	26	567	523	507	498	490	486
60	26	632	570	546	530	516	508
90	26	737	649	609	578	547	527
120	26	844	730	679	641	601	577
183	26	1080	880	798	738	680	645

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	5310	7980	9810	12200	13900	15700
3	27	5180	7720	9460	11700	13400	15100
7	27	4930	7310	8960	11100	12700	14400
15	27	4460	6630	8190	10300	11900	13700
30	27	4040	6020	7460	9440	11000	12700
60	27	3550	5080	6130	7470	8490	9510
90	27	3200	4510	5390	6510	7360	8210

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3860	5840	8730	10700	13300	15200	17200	

Systematic n = 27 historical n = 0
Weighted skew = -0.112

KLAMATH RIVER BASIN

11514500 KEENE CREEK NEAR ASHLAND, OR

LOCATION.--Lat $42^{\circ}10'15''$, long $122^{\circ}28'40''$, in NW1/4 sec. 21, T.39 S., R.3 E., Jackson County, Hydrologic Unit 18010206, on right bank 0.3 mi upstream from Burnt Creek, 0.6 mi downstream from Hyatt Dam, and 12 mi east of Ashland.

DRAINAGE AREA.--12.1 mi².

PERIOD OF RECORD.--April to July 1917, December 1917 to July 1920 (no low-flow records), October 1920 to June 1922, October 1948 to September 1965. Monthly discharge only October 1948, published in WSP 1315-B. Published as "at Hyatt Prairie, near Ashland" December 1917 to July 1920, October 1920 to June 1922, October 1948 to September 1958.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,706 ft above National Geodetic Vertical Datum of 1929 (by stadia survey). Apr. 1, 1917, to June 30, 1922, at site 0.5 mi upstream at different datum.

REMARKS.--Flow regulated since December 1922 by Hyatt Reservoir. No diversion upstream from station. Practically entire flow diverted downstream from station by Green Springs powerplant diversion.

AVERAGE DISCHARGE.--17 years (water years 1949-65), 12.7 ft³/s, 9,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 751 ft³/s May 3, 1954, gage height, 5.33 ft, caused by failure of flashboards on spillway of Hyatt Dam, from rating curve extended above 50 ft³/s on basis of computation of peak flow over Columbus-type control; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1950-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	0.2	0.2	0.1	0.1	--	--
3	16	0.2	0.2	0.1	0.1	--	--
7	16	0.2	0.2	0.1	0.1	--	--
14	16	0.2	0.2	0.1	0.1	--	--
30	16	0.2	0.2	0.2	0.2	--	--
60	16	0.3	0.2	0.2	0.2	--	--
90	16	0.3	0.2	0.2	0.2	--	--
120	16	0.3	0.3	0.2	0.2	--	--
183	16	0.5	0.3	0.3	0.3	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1949-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17	69	90	112	154	--	--
3	17	70	88	102	122	--	--
7	17	69	81	86	91	--	--
15	17	65	79	84	87	--	--
30	17	59	75	80	83	--	--
60	17	50	65	70	74	--	--
90	17	42	55	60	64	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

SNAKE RIVER BASIN

OWYHEE RIVER BASIN

13181000 Owyhee River Near Rome, OR

LOCATION.--Lat 42°52'02", long 117°38'52", in SE 1/4 NE 1/4 sec.14, T.31 S., R.41 E., Malheur County, Hydrologic Unit 17050107, on right bank 0.5 mi downstream from Jordan Creek, 2.6 mi north of Rome, and at mile 122.4.

DRAINAGE AREA.--About 8,000 mi².

PERIOD OF RECORD.--October 1949 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 3,344.20 ft above National Geodetic Vertical Datum of 1929. Prior to Feb 10, 1960, at datum 0.24 ft lower.

REMARKS.--Flow regulated by Antelope Reservoir, capacity, 70,000 acre-ft, increased in 1970, and Wild Horse Reservoir, capacity, 32,690 acre-ft, and numerous small reservoirs. Diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--38 years, 1,021 ft³/s, 739,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft³/s Feb. 19, 1986, gage height, 19.09 ft; minimum, 42 ft³/s Aug. 12, 1954, July 28, Aug. 5, 1961, July 31, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1971-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	128	98	85	76	67	61
3	17	129	99	87	79	71	66
7	17	132	102	91	83	76	71
14	17	138	108	96	89	81	77
30	17	151	117	104	94	85	80
60	17	167	131	116	106	96	90
90	17	178	137	121	110	99	93
120	17	191	146	129	116	105	98
183	17	231	172	151	137	123	116

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1950-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38	10000	18000	22900	28200	31500	34400
3	38	8260	15100	19500	24600	28100	31200
7	38	6350	12000	16100	21100	24800	28300
15	38	4790	9270	12600	16800	20000	23200
30	38	3650	7140	9740	13200	15800	18500
60	38	2780	5420	7350	9870	11800	13600
90	38	2310	4490	6100	8220	9810	11400

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

OWYHEE RIVER BASIN

13182000 Owyhee River Above Lake Owyhee, OR

LOCATION.--Lat 43°13'34", long 117°29'47", in SE1/4 sec.7, T.27 S., R.43 E., Malheur County, Hydrologic Unit 17050110, on left bank 3 mi upstream from flow line of Lake Owyhee and 26 mi northeast of Rome.

DRAINAGE AREA.--10,400 mi², approximately.

PERIOD OF RECORD.--April 1929 to September 1951. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Elevation of gage is 2,690 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Flow regulated by Antelope Reservoir, Wild Horse Reservoir, and numerous small reservoirs. Diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--22 years (water years 1930-51), 851 ft³/s, 616,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s Mar. 20, 1932, Apr. 19, 1936; maximum gage height, 12.95 ft Mar. 20, 1932; minimum discharge, 99 ft³/s Dec. 18, 1948, gage height, 3.45 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	155	130	118	109	97	--
3	20	158	132	119	109	98	--
7	20	161	133	120	109	98	--
14	20	164	135	121	110	98	--
30	20	168	138	124	112	100	--
60	20	173	143	128	117	104	--
90	20	181	149	134	122	109	--
120	20	190	157	141	128	115	--
183	20	214	174	155	142	128	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	7570	12100	14400	16700	18000	--
3	21	6440	10500	12800	15100	16500	--
7	21	5330	9090	11500	14200	16100	--
15	21	4500	7760	9820	12200	13700	--
30	21	3770	6210	7560	8950	9770	--
60	21	2970	4600	5380	6080	6450	--
90	21	2490	3780	4370	4890	5140	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1931-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5070	8430	13400	16800	21100	24200	--	

Systematic n = 20 historical n = 0
Weighted skew = -0.324

OWYHEE RIVER BASIN

13183000 Owyhee River Below Owyhee Dam, OR

LOCATION.--Lat $43^{\circ}39'17''$, long $117^{\circ}15'16''$, in SE 1/4 sec.18, T.22 S., R.45 E., Malheur County, Hydrologic Unit 17050110, on left bank 0.8 mi downstream from Owyhee Dam, 20 mi southwest of Nyssa, and at mile 27.3.

DRAINAGE AREA.--11,160 mi², approximately.

PERIOD OF RECORD.--February 1929 to 1987.

REVISED RECORDS.--WSP 983: 1941-42. WSP 1397: 1930, 1933, 1946.

GAGE.--Water-stage recorder. Datum of gage is 2,343.67 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Flow regulated since October 1932 by Lake Owyhee (station 13182500), and by many smaller reservoirs. Diversion of up to 457,000 acre-ft from Lake Owyhee during the year for irrigation of lands downstream from station and outside the basin. Many smaller diversions upstream from Lake Owyhee for irrigation upstream from station.

COOPERATION.--Water-stage recorder inspected by irrigation district employees.

AVERAGE DISCHARGE.--55 years (water years 1933-87), 446 ft³/s, 323,100 acre-ft/yr, not adjusted for storage or diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s Apr. 15, 1952, gage height, 15.70 ft; no flow for part of Aug. 8, 9, 1932, when temporary diversion tunnel at Owyhee Dam was closed.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	54	3.2	2.1	1.7	1.4	1.2	1.0
3	54	3.2	2.1	1.7	1.4	1.2	1.0
7	54	3.3	2.1	1.7	1.4	1.2	1.1
14	54	3.4	2.2	1.8	1.5	1.2	1.1
30	54	3.5	2.3	1.8	1.5	1.3	1.1
60	54	3.6	2.4	2.0	1.8	1.6	1.5
90	54	3.6	2.4	2.2	2.0	1.9	1.9
120	54	4.4	2.5	2.1	1.9	1.7	1.7
183	54	15	6.2	4.1	2.9	2.0	1.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	55	1520	7150	15600	35300	58900	92900
3	55	1430	6730	14700	33400	55900	88400
7	55	1310	6060	13200	29900	50100	79400
15	55	1150	5180	11100	24800	41400	65100
30	55	929	3930	8250	18000	29700	46300
60	55	720	2800	5660	12000	19400	29800
90	55	607	2200	4290	8760	13900	21000

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

OWYHEE RIVER BASIN

13184000 Owyhee River at Owyhee, OR

LOCATION.--Lat 43°46'57", long 117°03'30", in SE 1/4 SE 1/4 sec.35, T.20 S., R.46 E., Malheur County, Hydrologic Unit 17050110, on left bank 0.3 mi upstream from State Highway 201 bridge, 0.9 mi southwest of Owyhee, and at mile 3.1.

DRAINAGE AREA.--11,300 mi², approximately.

PERIOD OF RECORD.--March 1890 to June 1891, February to June 1892, February to July, October to December 1893, January 1895 to May 1897, August 1903 to September 1916, May 1920 to July 1929, July 1979 to September 1982. Monthly discharge only for some periods published in WSP 1317. Published as "at Rigsby", 1890-93; "at Nyssa", 1895-96; and as "at Owyhee" in WSP 370. Records for September, October 1903, May to October 1904, March, April 1905, published in WSP 135 in conjunction with records for Owyhee River near Owyhee and in WSP 370, have been found in error and should not be used.

GAGE.--Water-stage recorder. Elevation of gage is 2,190 ft, from topographic map.

REMARKS.--Flow regulated since October 1932 by Lake Owyhee, and smaller reservoirs. Diversions from Lake Owyhee for irrigation of lands upstream from station and outside the basin. Many smaller diversions upstream from Lake Owyhee for irrigation.

AVERAGE DISCHARGE.--20 years (water years 1896, 1904-16, 1922-27), 1,048 ft³/s, 759,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s Mar. 2, 1910, gage height, 12.9 ft site and datum then in use, from rating curve extended above 14,000 ft³/s; no flow July 7, 19, Aug. 14-16, 1924, July 5, 6, 1926. Maximum discharge recorded since construction of Owyhee Dam in 1932, 7,790 ft³/s Feb. 23, 1982, gage height, 11.91 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1896-1927

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	3.5	1.0	0.0	0.0	--	--
3	17	4.0	1.3	0.7	0.0	--	--
7	17	5.6	1.6	0.8	0.4	--	--
14	17	6.6	2.2	1.2	0.8	--	--
30	17	8.5	3.9	2.8	2.2	--	--
60	17	14	6.1	4.0	2.9	--	--
90	17	22	9.8	6.5	4.6	--	--
120	17	42	20	13	9.3	--	--
183	17	95	56	40	30	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1896-1927

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	9030	14500	18200	23000	--	--
3	18	7700	12500	15700	19600	--	--
7	18	6570	10600	13000	15900	--	--
15	18	5310	8450	10400	12600	--	--
30	18	4190	7010	8870	11100	--	--
60	18	3250	5540	7050	8880	--	--
90	18	2800	4620	5810	7260	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1895-1928

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5570	9410	15800	20700	27600	33200	--	

Systematic n = 21 historical n = 0
Weighted skew = -0.035

MALHEUR RIVER BASIN

13214000 MALHEUR RIVER NEAR DREWSEY, OR

LOCATION.--Lat $43^{\circ}47'05''$, long $118^{\circ}19'50''$, in NE 1/4 SE 1/4 sec.31, T.20 S., R.36 E., Harney County, Hydrologic Unit 17050116, on left bank 300 ft downstream from bridge on U.S. Highway 20, 0.5 mi downstream from Cottonwood Creek, 3.0 mi southeast of Drewsey, and at mile 129.0.

DRAINAGE AREA.--910 mi², approximately.

PERIOD OF RECORD.--June 1920 to September 1921, November, December 1921, March, April 1922, April to September 1923, June 1926 to 1987. Monthly discharge only for some periods, published in WSP 1317. March to September 1914 at site 13 mi upstream; records not equivalent owing to inflow from several creeks.

REVISED RECORDS.--WSP 1093: 1927. WSP 1287: Drainage area. WSP 1397: 1921, 1927-31, 1937, drainage area (former site). WSP 1517: 1952. WDR OR-78-1: 1976(P).

GAGE.--Water-stage recorder. Datum of gage is 3,479.13 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 27, 1923, water-stage recorder or nonrecording gage at site 0.5 mi downstream at different datum. Apr. 27, 1923, to June 6, 1939, water-stage recorder at site 7 mi downstream at different datum.

REMARKS.--Slight regulation by small reservoirs upstream from station. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1927-87), 193 ft³/s, 140,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s Dec. 23, 1964, gage height, 13.50 ft, from rating curve extended above 4,500 ft³/s on basis of contracted-opening measurement at gage height 13.20 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	60	3.1	1.0	0.3	0.0	0.0	0.0
3	60	3.3	1.0	0.3	0.0	0.0	0.0
7	60	3.9	1.0	0.3	0.0	0.0	0.0
14	60	4.4	1.2	0.4	0.0	0.0	0.0
30	60	5.3	1.6	0.7	0.3	0.0	0.0
60	60	7.1	2.5	1.3	0.6	0.0	0.0
90	60	12	4.0	2.0	1.1	0.5	0.3
120	60	18	8.2	5.2	3.5	2.1	1.5
183	60	35	21	15	11	7.7	5.9

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	61	1600	2910	3800	4900	5670	6410
3	61	1350	2400	3080	3900	4450	4960
7	61	1110	1900	2380	2920	3260	3570
15	61	924	1530	1870	2230	2450	2630
30	61	742	1230	1520	1840	2040	2210
60	61	580	961	1200	1470	1650	1820
90	61	486	798	993	1220	1370	1510

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1070	2040	3870	5400	7690	9650	11800

Systematic n = 60 historical n = 0
Weighted skew = -0.031

MALHEUR RIVER BASIN

13215000 MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OR

LOCATION.--Lat 43°34'29", long 118°12'31", on line between NW 1/4 SW 1/4 and SW 1/4 NW 1/4 sec.17, T.23 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank 0.9 mi downstream from Warmsprings Dam, 3.0 mi upstream from South Fork, 4.0 mi northwest of Riverside, and at mile 113.

DRAINAGE AREA.--1,100 mi², approximately.

PERIOD OF RECORD.--January 1906 to March 1907 and December 1908 (gage heights only), January 1909 to September 1910, December 1914 to July 1917, March 1919 to 1987. Monthly discharge only for some periods, published in WSP 1317. Figures of discharge for January 1906 to March 1907, published in WSP 272 and 370, have been found to be unreliable and should not be used. Published as Middle Fork of Malheur River at Riverside 1906-7, as Middle Fork of Malheur River above South Fork, at Riverside 1909-10, as Malheur River above South Fork, at Riverside in WSP 370, 1906-10, and as Malheur River at Warmsprings reservoir site, near Riverside 1914-17.

REVISED RECORDS.--WSP 833: 1936. WSP 1063: 1942-45. WSP 1397: 1909-10, 1917. WSP 1447: 1955. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,305 ft, by barometer. See WSP 1317 or 1737 for history of changes prior to Sept. 29, 1949.

REMARKS.--Flow completely regulated since November 1919 by Warmsprings Reservoir (station 13214500). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--68 years (water years 1920-87), 193 ft³/s, 139,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,200 ft³/s Mar. 1, 1910, gage height, 10.7 ft, site and datum then in use, from rating curve extended above 820 ft³/s; maximum discharge since storage began November 1919, 3,150 ft³/s Mar. 22, 1984, gage height, 9.70 ft, from floodmark; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1921-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	65	0.1	0.0	0.0	0.0	0.0	0.0
3	65	0.1	0.0	0.0	0.0	0.0	0.0
7	65	0.1	0.0	0.0	0.0	0.0	0.0
14	65	0.1	0.0	0.0	0.0	0.0	0.0
30	65	0.2	0.0	0.0	0.0	0.0	0.0
60	65	0.2	0.0	0.0	0.0	0.0	0.0
90	65	0.2	0.0	0.0	0.0	0.0	0.0
120	65	0.2	0.0	0.0	0.0	0.0	0.0
183	65	1.0	0.8	0.3	0.1	0.0	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1920-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	67	720	1230	1700	2480	3240	4180
3	67	710	1190	1640	2370	3080	3940
7	67	684	1130	1530	2180	2800	3560
15	67	629	1000	1330	1860	2350	2940
30	67	568	861	1110	1480	1820	2200
60	67	497	711	872	1100	1280	1480
90	67	453	633	761	933	1070	1210

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

MALHEUR RIVER BASIN

13216500 NORTH FORK MALHEUR RIVER ABOVE BEULAH RESERVOIR, NEAR BEULAH, OR

LOCATION.--Lat $43^{\circ}56'54''$, long $118^{\circ}10'24''$, in NW 1/4 NE 1/4 sec.4, T.19 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank 1,000 ft upstream from Beulah Reservoir, 3.5 mi northwest of Beulah, and at mile 16.8. Prior to Sept. 24, 1985, at site 800 ft upstream.

DRAINAGE AREA.--355 mi².

PERIOD OF RECORD.--January to September 1914 (published as "at Scott's Ranch, near Beulah"), June 1936 to current year. Published as "above Agency Valley Reservoir, near Beulah", June 1936 to September 1968.

REVISED RECORDS.--WSP 1934: 1960 (M).

GAGE.--Water-stage recorder. Elevation of gage is 3,320 ft above National Geodetic Vertical Datum of 1929, from topographic map. Jan. 1 to Sept. 30, 1914, nonrecording gage and June 10, 1936, to Oct. 14, 1958, water-stage recorder at site 0.5 mi upstream at different datums. Oct. 15, 1958, to Oct. 8, 1975, water-stage recorder at site 800 ft upstream, datum of gage 3,351.0 ft. Oct. 9, 1975, to Sept. 24, 1985, at site 800 ft upstream, datum of gage 3,349.4 ft.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--51 years (water years 1937-87), 138 ft³/s, 99,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft³/s Dec. 23, 1964, gage height, 9.90 ft, present datum, from floodmark, from rating curve extended above 1,300 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft, present datum, sometime during period Dec. 17-23, 1964 (icejam); minimum discharge, 8.5 ft³/s Dec. 13, 1967, result of freezefup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	50	32	24	20	16	12	9.8
3	50	33	26	22	19	16	14
7	50	35	29	25	23	20	18
14	50	38	32	29	26	24	22
30	50	41	35	31	29	26	25
60	50	44	37	34	32	29	28
90	50	46	39	36	34	31	29
120	50	48	41	38	36	33	32
183	50	52	46	43	40	38	37

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	51	684	1090	1410	1870	2250	2670
3	51	620	972	1220	1550	1810	2070
7	51	558	845	1030	1250	1410	1560
15	51	488	729	880	1060	1180	1300
30	51	418	627	763	930	1050	1170
60	51	350	524	641	790	901	1010
90	51	301	450	553	686	786	887

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
573	917	1480	1920	2530	3030	3570	

Systematic n = 49 historical n = 0
Weighted skew = 0.082

MALHEUR RIVER BASIN

13217500 NORTH FORK MALHEUR RIVER AT BEULAH, OR

LOCATION.--Lat $43^{\circ}54'28''$, long $118^{\circ}09'08''$, in NW 1/4 NE 1/4 sec.22, T.19 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank at Beulah, 0.3 mi downstream from Agency Valley Dam, 12 mi northwest of Junta, and at mile 14.5.

DRAINAGE AREA.--440 mi², approximately.

PERIOD OF RECORD.--June 1926 to 1987. Published as "near Beulah" June 1926 to September 1935.

REVISED RECORDS.--WSP 1397: 1927-32, 1934, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,261.20 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 25, 1926, water-stage recorder at site 1 mi downstream at different datum. Apr. 25, 1936, to Sept. 30, 1949, nonrecording gage at site 20 ft downstream at datum 1.0 ft higher. Oct. 1, 1949, to June 30, 1964, at present site at datum 1.0 ft higher.

REMARKS.--Flow regulated since 1935 by Beulah Reservoir (station 13217000). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--52 years (water years 1936-87), 148 ft³/s, 107,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft³/s May 7, 1942, gage height, 9.4 ft, present datum, from floodmark, caused by failure of gates at Agency Valley Dam, from rating curve extended above 1,100 ft³/s on basis of computation of peak flow over dam; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

(Low-flow statistics uncertain due to excessive zero events)

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	50	0.1	0.0	0.0	0.0	0.0	0.0
3	50	0.1	0.0	0.0	0.0	0.0	0.0
7	50	0.1	0.0	0.0	0.0	0.0	0.0
14	50	0.1	0.0	0.0	0.0	0.0	0.0
30	50	0.2	0.1	0.0	0.0	0.0	0.0
60	50	0.2	0.1	0.0	0.0	0.0	0.0
90	50	0.2	0.1	0.0	0.0	0.0	0.0
120	50	0.3	0.1	0.1	0.1	0.0	0.0
183	50	8.9	2.7	1.4	0.8	0.4	0.2

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	51	592	1030	1440	2120	2770	3560
3	51	580	968	1300	1830	2300	2860
7	51	545	855	1100	1460	1770	2100
15	51	494	743	934	1200	1430	1670
30	51	435	629	771	964	1120	1280
60	51	376	530	639	785	900	1020
90	51	342	476	566	683	771	860

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

MALHEUR RIVER BASIN

13220000 MALHEUR RIVER AT LITTLE VALLEY, NEAR HOPE, OR

LOCATION.--Lat 43°53'08", long 117°30'25", in SE 1/4 SE 1/4 sec.24, T.19 S., R.42 E., Malheur County, Hydrologic Unit 17050117, on right bank 500 ft downstream from highway bridge at Little Valley, 8 mi southwest of Hope, 14 mi southwest of Vale, and at mile 45.6.

DRAINAGE AREA.--3,010 mi², approximately.

PERIOD OF RECORD.--April 1949 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 2,424.03 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Warm Springs and Beulah reservoirs. Vale-Oregon Canal diverted 163,700 acre-ft upstream from station at Namorf in sec.31, T.20 S., R.41 E., for supplying Bully Creek Reservoir and for irrigation. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--30 years, 192 ft³/s, 139,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--The two greatest floods occurred March 1894 and March 1910, on basis of records for former station near Namorf.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1951-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	29	21	14	11	9.3	7.4	6.3
3	29	22	15	12	9.5	7.5	6.3
7	29	23	16	12	10	7.9	6.6
14	29	27	18	14	11	8.7	7.3
30	29	33	21	16	13	9.1	7.3
60	29	38	26	20	15	11	8.8
90	29	41	30	25	20	16	13
120	29	45	34	29	24	20	18
183	29	67	48	39	33	26	23

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1950-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	30	1590	3810	5830	8970	11700	14700
3	30	1270	2980	4550	7020	9200	11700
7	30	934	2090	3140	4810	6300	8020
15	30	653	1430	2160	3380	4520	5890
30	30	495	1030	1550	2430	3280	4320
60	30	375	752	1120	1770	2410	3220
90	30	318	601	869	1330	1770	2320

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

MALHEUR RIVER BASIN

13220500 MALHEUR RIVER NEAR HOPE, OR

LOCATION.--Lat $43^{\circ}56'40''$, long $117^{\circ}28'50''$, in SW1/4 sec.5, T.19 S., R.43 E., Malheur County, Hydrologic Unit 17050117, 0.5 mi upstream from intake of Vines Canal, 5.5 mi west of Hope, and 12 mi west of Vale.

DRAINAGE AREA.--3,030 mi², approximately.

PERIOD OF RECORD.--March 1922 to September 1949.

GAGE.--Water-stage recorder. Elevation of gage is 2,370 ft (from topographic map).

REMARKS.--Since March 1930, Vale-Oregon Canal has diverted at Namorf for irrigation upstream and downstream from station. Many small diversions for irrigation upstream from station. Flow regulated by Warm Springs Reservoir and, since December 1935, by Agency Valley Reservoir.

AVERAGE DISCHARGE.--19 years (water years 1930-49), 187 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft³/s Feb. 5, 1925, gage height, 8.1 ft, from rating curve extended above 2,800 ft³/s; minimum, 3.5 ft³/s Sept. 2, 1919.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	24	17	15	--	--	--
3	13	25	18	15	--	--	--
7	13	27	19	16	--	--	--
14	13	30	21	18	--	--	--
30	13	34	25	21	--	--	--
60	13	43	32	28	--	--	--
90	13	46	34	30	--	--	--
120	13	53	38	32	--	--	--
183	13	74	54	45	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	1940	3440	4340	5310	--	--
3	14	1370	2390	3030	3760	--	--
7	14	942	1700	2280	3060	--	--
15	14	712	1400	2020	2990	--	--
30	14	538	1090	1630	2540	--	--
60	14	436	865	1270	1950	--	--
90	14	377	710	1020	1540	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

MALHEUR RIVER BASIN

13226500 BULLY CREEK AT WARMSPRINGS, NEAR VALE, OR

LOCATION.--Lat 44°01'10", long 117°27'35", in SE 1/4 NW 1/4 sec.9, T.18 S., R.43 E., Malheur County, Hydrologic Unit 17050118, on left bank 400 ft downstream from Cottonwood Creek, 4.7 mi upstream from Bully Creek Dam, 11.4 mi northwest of Vale, and at mile 17.2.

DRAINAGE AREA.--539 mi².

PERIOD OF RECORD.--September 1903 to February 1904, February 1905 to March 1907, February 1910, January 1911 to May 1917, March 1922 to June 1923, October 1963 to September 1985. Monthly discharge only for some periods, published in WSP 1317. Published as "near Vale" 1903, 1907, and as "above Vale" 1904-6, 1910.

GAGE.--Water-stage recorder. Datum of gage is 2,527.21 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to July 1, 1923, nonrecording gages within 0.5 mi downstream at different datums.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1906, 1912-16, 1964-85), 53.6 ft³/s, 38,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft³/s Dec. 22, 1964, gage height, 8.68 ft, from rating curve extended above 200 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	0.6	0.2	0.1	0.1	0.0	--
3	21	0.6	0.3	0.2	0.1	0.0	--
7	21	0.7	0.3	0.2	0.1	0.0	--
14	21	0.9	0.3	0.2	0.1	0.1	--
30	21	1.3	0.5	0.3	0.2	0.1	--
60	21	1.8	0.8	0.5	0.4	0.2	--
90	21	2.3	1.0	0.7	0.5	0.3	--
120	21	3.0	1.4	0.9	0.7	0.4	--
183	21	4.6	2.4	1.7	1.3	1.0	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	1180	2540	3450	4520	5210	--
3	22	847	1700	2200	2710	3000	--
7	22	611	1200	1510	1780	1920	--
15	22	402	809	1030	1250	1360	--
30	22	259	538	715	908	1030	--
60	22	178	373	503	652	750	--
90	22	142	295	398	518	597	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1986

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
964	2400	5630	8580	13200	17300	--	

Systematic n = 22 historical n = 0

Weighted skew = -0.242

MALHEUR RIVER BASIN

13227000 BULLY CREEK NEAR VALE, OR

LOCATION.--Lat $43^{\circ}57'30''$, long $117^{\circ}20'30''$, in SW1/4 sec.33, T.18 S., R.44 E., Malheur County, Hydrologic Unit 17050118, on right bank 5 mi southwest of Vale and 7 mi upstream from mouth.

DRAINAGE AREA.--570 mi², approximately.

PERIOD OF RECORD.--May 1933 to September 1934, November 1934, March 1935, March, April 1936, June 1937 to September 1962. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,313 ft (by levels to reference point furnished by Union Pacific Railroad). Prior to Mar. 15, 1937, water-stage recorder or staff gage at site 2 mi upstream at different datum. Mar. 15, 1937, to Jan. 1, 1940, water-stage recorder at present site at datum 0.38 ft higher.

REMARKS.--Occasional fluctuations caused by releases from Vale-Oregon Canal which diverts water from Malheur River for irrigation of lands west of Vale; considerable return flow at times enters Bully Creek upstream from station. Diversions for irrigation of about 7,000 acres upstream from station.

AVERAGE DISCHARGE.--26 years (water years 1934, 1938-62), 40.4 ft³/s, 29,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,980 ft³/s Feb. 24, 1957, gage height, 10.5 ft, from floodmarks, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1939-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	4.7	2.7	1.9	1.5	1.1	--
3	24	5.3	2.9	2.1	1.5	1.1	--
7	24	6.1	3.4	2.4	1.7	1.2	--
14	24	6.7	3.7	2.6	1.8	1.2	--
30	24	7.8	4.3	2.9	2.0	1.3	--
60	24	8.8	4.8	3.3	2.3	1.4	--
90	24	9.5	5.3	3.6	2.6	1.6	--
120	24	10	5.9	4.1	3.0	1.9	--
183	24	12	7.1	5.0	3.6	2.4	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1934-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	447	1160	1760	2600	3240	3880
3	26	327	897	1410	2170	2800	3440
7	26	237	649	1020	1560	2000	2460
15	26	186	496	766	1150	1460	1770
30	26	136	353	543	817	1040	1260
60	26	97	250	384	576	730	889
90	26	75	187	282	417	524	634

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1934-1962

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
279	843	2340	3850	6400	8760	11500	

Systematic n = 26 historical n = 0
Weighted skew = -0.290

MALHEUR RIVER BASIN

13228000 MALHEUR RIVER AT VALE, OR

LOCATION.--Lat $43^{\circ}58'50''$, long $117^{\circ}14'20''$, in NW1/4 sec.29, T.18 S., R.45 E., Malheur County, Hydrologic Unit 17050117, at road bridge at Vale and 0.2 mi downstream from Bully Creek.

DRAINAGE AREA.--3,880 mi², approximately.

PERIOD OF RECORD.--April 1890 to September 1891, January 1895 to September 1896, June 1903 to September 1906, June 1908 to September 1914.

GAGE.--Staff gage. Elevation of gage is 2,230 ft (from topographic map). Prior to Mar. 20, 1919, staff or chain gages at different datums.

REMARKS.--Many diversions upstream from station for irrigation upstream and downstream from station. Flow slightly regulated since 1915 by Vale-Oregon Irrigation Co. dam on Bully Creek.

AVERAGE DISCHARGE.--11 years (water years 1896, 1904-1906, 1909-1914), 541 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,800 ft³/s Mar. 2, 1910, gage height, 19.5 ft, datum then in use, from floodmark, from rating curve extended above 3,600 ft³/s; minimum, 4 ft³/s July 19-21, 1895, Aug. 23, 1906.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1891-1914

[Low-flow statistics not computed-Less than 10 non-zero events recorded]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1891-1914

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	4420	7950	11200	--	--	--
3	10	3420	6040	8430	--	--	--
7	10	2760	5050	7050	--	--	--
15	10	2370	4300	5980	--	--	--
30	10	1880	3350	4690	--	--	--
60	10	1460	2490	3440	--	--	--
90	10	1210	2070	2860	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1904-1914

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3890	7540	14300	19800	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = -0.127

BURNED RIVER BASIN

13269300 NORTH FORK BURNED RIVER NEAR WHITNEY, OR

LOCATION.--Lat 44°36'00", long 118°15'10", in NE1/4 sec.23, T.11 S., R.36 E., Baker County, Hydrologic Unit 17050202, Wallowa Whitman National Forest, on right bank 950 ft upstream from Petticoat Creek, 1.0 mi downstream from U.S. Bureau of Reclamation damsite, 4.5 mi southeast of Whitney, and 11.5 mi northwest of Unity.

DRAINAGE AREA.--110 mi², approximately.

PERIOD OF RECORD.--June 1964 to June 1978, January 1979 to June 1980, January to June only, each year.

GAGE.--Water-stage recorder. Elevation of gage is 4,000 ft, from topographic map.

REMARKS.--Some regulations from irrigation and mining operations upstream. A transmountain diversion from headwaters of Middle Fork John Day River delivers as much as 12 ft/s to North Fork Burnt River upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1965-77), 49.8 ft³/s, 36,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft³/s Apr. 6, 1971, gage height, 4.31 ft; maximum gage height, 4.95 ft Jan. 29, 1965 (ice jam); minimum discharge, 0.14 ft³/s Aug. 15, 1977, but may have been less when stage fell below inlets July 19 to Aug. 17, 1966.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1966-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	13	0.6	0.3	0.2	--	--	--
3	13	0.6	0.3	0.2	--	--	--
7	13	0.6	0.3	0.2	--	--	--
14	13	0.7	0.4	0.3	--	--	--
30	13	0.9	0.5	0.4	--	--	--
60	13	1.2	0.7	0.5	--	--	--
90	13	1.7	1.0	0.7	--	--	--
120	13	2.3	1.4	1.1	--	--	--
183	13	4.3	3.1	2.6	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1965-1977

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	13	546	800	887	--	--	--
3	13	488	697	762	--	--	--
7	13	420	611	674	--	--	--
15	13	346	500	547	--	--	--
30	13	279	429	484	--	--	--
60	13	212	330	374	--	--	--
90	13	162	253	289	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1977

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
403	638	1000	1260	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = -0.075

BURNT RIVER BASIN

13270800 SOUTH FORK BURNT RIVER ABOVE BARNEY CREEK, NEAR UNITY, OR

LOCATION.--Lat $44^{\circ}24'25''$, long $118^{\circ}18'01''$, in NW1/4SE1/4 sec.28, T.13 S., R.36 E., Baker County, Hydrologic Unit 17050202, Wallowa Whitman National Forest, on right bank 84 ft upstream from Barney Creek and 6 mi southwest of Unity.

DRAINAGE AREA.--38.5 mi².

PERIOD OF RECORD.--March 1963 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 4,341.75 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to July 18, 1963, nonrecording gage at site 220 ft upstream at datum 5.47 ft higher, July 18, 1963, to July 18, 1979, at site 215 ft upstream at datum 5.31 ft higher.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 27.2 ft³/s, 19,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186 ft³/s Apr. 29, 1965, gage height, 1.98 ft, site and datum then in use; maximum gage height, 3.57 ft Jan. 10, 1974 (backwater from ice), site and datum then in use; minimum discharge, 11 ft³/s Feb. 12, 1978, but may have been less during period of no gage-height record Nov. 20 to Dec. 5, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	16	14	13	12	--	--
3	18	17	15	14	13	--	--
7	18	18	16	14	13	--	--
14	18	18	17	16	15	--	--
30	18	19	17	17	16	--	--
60	18	20	18	18	17	--	--
90	18	20	19	18	18	--	--
120	18	21	19	18	18	--	--
183	18	21	20	19	18	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	71	106	129	158	--	--
3	18	68	102	125	153	--	--
7	18	65	96	116	140	--	--
15	18	60	87	104	127	--	--
30	18	53	75	89	106	--	--
60	18	46	62	73	86	--	--
90	18	41	53	62	72	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
49	74	110	135	166	--	--	

Systematic n = 18 historical n = 0
Weighted skew = -0.146

BURNED RIVER BASIN

13273000 BURNED RIVER NEAR HEREFORD, OR

LOCATION.--Lat 44°30'14", long 118°10'35", in SE 1/4 sec.21, T.12 S., R.37 E., Baker County, Hydrologic Unit 17050202, on left bank 800 ft downstream from Unity Dam, 0.4 mi upstream from Van Cleve ditch, 7 mi west of Hereford, and at mile 63.5.

DRAINAGE AREA.--309 mi².

PERIOD OF RECORD.--March to September 1915, April to September 1916, October 1928 to 1987. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 903: 1939. WSP 1397: 1916, 1930, 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 3,758.19 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1943, to Oct. 31, 1966, water-stage recorder at site 450 ft downstream at datum 1.44 ft lower. See WSP 1317 or 1737 for history of changes prior to Oct. 1, 1943.

REMARKS.--Flow regulated since 1938 by Unity Reservoir (station 13272500). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--59 years (water years 1929-87), 87.4 ft³/s, 63,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft³/s Apr. 17, 1943, gage height, 5.91 ft, present datum, from rating curve extended above 1,300 ft³/s; maximum gage height, 9.07 ft Apr. 8, 1971; no flow at times; minimum discharge before construction of Unity Dam, 1.6 ft³/s Aug. 31, 1935.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	48	1.2	0.1	0.0	0.0	0.0	0.0
3	48	1.5	0.2	0.0	0.0	0.0	0.0
7	48	2.2	0.4	0.1	0.0	0.0	0.0
14	48	2.6	0.6	0.3	0.1	0.0	0.0
30	48	4.0	1.0	0.4	0.2	0.1	0.0
60	48	5.4	1.8	0.9	0.5	0.3	0.2
90	48	8.0	2.7	1.4	0.8	0.4	0.3
120	48	11	4.3	2.4	1.4	0.8	0.5
183	48	25	12	7.5	4.9	2.9	2.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	48	465	771	984	1260	1460	1670
3	48	452	746	951	1210	1410	1600
7	48	419	682	861	1090	1250	1420
15	48	359	574	724	916	1060	1200
30	48	297	466	583	734	848	963
60	48	235	358	440	545	623	700
90	48	200	296	362	445	508	571

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

BURNT RIVER BASIN

13274200 BURNT RIVER NEAR BRIDGEPORT, OR

LOCATION.--Lat $44^{\circ}32'27''$, long $117^{\circ}41'10''$, in NW1/4NW1/4 sec.10, T.12 S., R.41 E., Baker County, Hydrologic Unit 17050202, on left bank 0.5 mi downstream from Dark Canyon, 4.6 mi upstream from Deer Creek, 5.0 mi northeast of Bridgeport, and at mile 37.1.

DRAINAGE AREA.--650 mi², approximately.

PERIOD OF RECORD.--October 1956 to September 1980.

GAGE.--Water-stage recorder. Datum of gage is 3,223.22 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Flow regulated since 1938 by Unity Reservoir. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--24 years, 105 ft³/s, 76,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s Apr. 9, 1971, gage height, 6.40 ft; minimum, 5.2 ft³/s Dec. 5, 1972.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	15	10	8.3	6.9	5.6	--
3	23	16	11	9.0	7.6	6.2	--
7	23	17	12	9.9	8.3	6.7	--
14	23	18	14	11	10	8.6	--
30	23	21	16	14	12	11	--
60	23	24	18	15	13	11	--
90	23	26	19	16	14	12	--
120	23	29	22	18	16	13	--
183	23	40	30	25	21	18	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	533	988	1310	1720	2030	--
3	24	501	928	1230	1610	1880	--
7	24	448	826	1100	1440	1700	--
15	24	387	703	929	1220	1440	--
30	24	324	590	781	1030	1210	--
60	24	250	446	584	758	885	--
90	24	208	365	472	605	701	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

BURNED RIVER BASIN

13275000 BURNED RIVER AT HUNTINGTON, OR

LOCATION.--Lat 44°21'30", long 117°16'20", in NE1/4 sec.13, T.14 S., R.44 E., Baker County, Hydrologic Unit 17050202, on right bank 0.5 mi northwest of Huntington and at mile 2.9.

DRAINAGE AREA.--1,093 mi².

PERIOD OF RECORD.--September 1928 to September 1932, October 1956 to September 1959, June 1962 to September 1980.

GAGE.--Water-stage recorder. Datum of gage is 2,104.75 ft above National Geodetic Vertical Datum of 1929. Sept. 13, 1928, to Sept. 30, 1932, nonrecording gage at site 200 ft upstream at different datum. Oct. 1, 1956, to Sept. 30, 1959, water-stage recorder and Oct. 1, 1959, to Aug. 20, 1962, crest-stage gage.

REMARKS.--Flow regulated since 1938 by Unity Reservoir. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--25 years, 132 ft³/s, 95,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft³/s Dec. 22, 1964, gage height, 5.94 ft; maximum gage height, 6.80 ft Feb. 3, 1963 (ice jam); no flow at times.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	24	13	8.6	6.0	--	--
3	19	27	14	9.6	6.7	--	--
7	19	30	16	11	8.2	--	--
14	19	34	20	14	10	--	--
30	19	40	24	18	13	--	--
60	19	46	29	21	16	--	--
90	19	51	32	23	17	--	--
120	19	55	36	26	20	--	--
183	19	61	43	33	26	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	811	1420	1800	2250	2540	--
3	21	741	1280	1630	2020	2290	--
7	21	632	1090	1400	1760	2010	--
15	21	511	911	1190	1540	1800	--
30	21	429	778	1030	1350	1590	--
60	21	333	598	792	1050	1240	--
90	21	285	503	659	863	1020	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

POWDER RIVER BASIN

13275300 POWDER RIVER NEAR SUMPTER, OR

LOCATION.--Lat 44°40'20", long 117°59'40", in NE 1/4 NE 1/4 sec.25, T.10 S., R.38 E., Baker County, Hydrologic Unit 17050203, Wallowa Whitman National Forest, on left bank 1,200 ft downstream from Mason Dam, 1.4 mi upstream from California Gulch, 11.4 mi southeast of Sumpter, and at mile 123.2.

DRAINAGE AREA.--168 mi², approximately. Prior to Oct. 1, 1970, 170 mi² at cableway, 0.5 mi downstream.

PERIOD OF RECORD.--April 1965 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 3,898.47 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to July 29, 1965, nonrecording gage at datum 1.03 ft higher.

REMARKS.--Flow completely regulated since Oct. 31, 1967, by Phillips Lake, active capacity, 90,540 acre-ft. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--22 years, 115 ft³/s, 83,320 acre-ft/yr, not adjusted for storage in Phillips Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 971 ft³/s Apr. 30, 1965, gage height, 4.43 ft; no flow Nov. 12, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s, approximately, Mar. 20, 1910, based on comparison with records for station downstream, near Baker.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	4.4	1.5	0.7	0.3	--	--
3	19	5.2	2.0	0.9	0.4	--	--
7	19	5.6	2.1	1.0	0.5	--	--
14	19	6.4	2.7	1.3	0.7	--	--
30	19	6.8	3.3	2.0	1.2	--	--
60	19	7.1	4.0	2.8	2.0	--	--
90	19	7.7	4.7	3.4	2.6	--	--
120	19	8.0	4.9	3.8	3.0	--	--
183	19	14	7.2	5.0	3.7	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20	467	539	574	609	629	--
3	20	455	530	567	603	625	--
7	20	438	518	560	603	630	--
15	20	408	497	548	606	646	--
30	20	363	460	521	597	652	--
60	20	311	416	488	583	657	--
90	20	283	371	429	503	559	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

POWDER RIVER BASIN

13275500 POWDER RIVER NEAR BAKER, OR

LOCATION.--Lat 44°39'20", long 117°52'30", in NE1/4 sec.36, T.10 S., R.39 E., Baker County, Hydrologic Unit 17050203, on right bank 700 ft downstream from Stices Gulch, 8.5 mi south of Baker, and at mile 116.2.

DRAINAGE AREA.--219 mi².

PERIOD OF RECORD.--December 1903 to August 1914, July 1926 to September 1968. Monthly discharge only for some periods, published in WSP 1317. Published as "near Baker City" December 1903 to December 1905, and as "at Salisbury" January 1906 to August 1914, October 1928 to September 1951.

GAGE.--Water-stage recorder and concrete-filled bag control. Datum of gage is 3,632.31 ft above National Geodetic Vertical Datum of 1929. Dec. 20, 1903, to Feb. 29, 1912, staff gage at site 400 ft upstream at different datum. Mar. 1, 1912, to Aug. 1, 1914, and June 6, 1926, to Oct. 15, 1933, staff gage at site 0.4 mi downstream at different datum. Oct. 16, 1933, to Sept. 3, 1965, graphic water-stage recorder at present site and datum.

REMARKS.--Flow regulated since Oct. 31, 1967, by Phillips Lake (active capacity, 90,540 acre-ft). Many small diversions for irrigation upstream from station. At times Auburn ditch diverts water into basin upstream from station.

AVERAGE DISCHARGE.--51 years (water years 1905-13, 1927-68), 110 ft³/s, 79,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,820 ft³/s Mar. 20, 1910, gage height, 7.05 ft, site and datum then in use; no flow Aug. 31, 1909, Sept. 7, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1905-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	48	4.5	1.2	0.4	0.1	0.0	0.0
3	48	4.5	1.3	0.6	0.3	0.1	0.0
7	48	5.1	1.6	0.7	0.3	0.1	0.1
14	48	5.7	1.9	0.9	0.4	0.2	0.1
30	48	6.3	2.3	1.2	0.6	0.3	0.1
60	48	8.3	3.6	2.1	1.2	0.6	0.4
90	48	11	5.2	3.3	2.1	1.2	0.8
120	48	13	7.3	5.0	3.5	2.3	1.7
183	48	20	12	9.3	7.2	5.3	4.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1905-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	48	675	952	1110	1290	1410	1510
3	48	641	893	1030	1180	1270	1350
7	48	589	810	925	1040	1110	1170
15	48	525	717	813	908	964	1010
30	48	447	609	694	782	836	881
60	48	373	512	591	677	732	782
90	48	320	438	504	575	622	662

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1904-1967

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
479	725	1050	1250	1480	1640	1800	

Systematic n = 52 historical n = 0
Weighted skew = -0.431

POWDER RIVER BASIN

13277000 POWDER RIVER AT BAKER, OR

LOCATION.--Lat $44^{\circ}46'06''$, long $117^{\circ}49'50''$, in SE 1/4 NE 1/4 sec.20, T.9 S., R.40 E., Baker County, Hydrologic Unit 17050203, on right bank 600 ft upstream from Myrtle Street Bridge in Baker, 0.5 mi downstream from Sutton Creek, and at mile 107.6.

DRAINAGE AREA.--351 mi².

PERIOD OF RECORD.--May to September 1913, April to July 1914, November 1971 to 1987. Monthly discharge only May 1913, April 1914 published in WSP 1317. November 1971 to September 1978 in reports of Oregon Water Resources Department.

REVISED RECORDS.--WSP 1317: 1913.

GAGE.--Water-stage recorder. Datum of gage is 3,441.71 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 19, 1971, nonrecording gage at site 0.7 mi downstream at different datum.

REMARKS.--Flow regulated since Oct. 31, 1967, by Phillips Lake, active capacity, 90,540 acre-ft. Old Settlers Slough diverts from left bank 0.2 mi upstream for irrigation downstream from station.

AVERAGE DISCHARGE.--15 years, 119 ft³/s, 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,120 ft³/s Jan. 15, 1974, gage height, 5.55 ft; maximum gage height, 5.57 ft Jan. 5, 1984 (ice jam); minimum discharge, 0.7 ft³/s Oct. 28, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	10	488	594	651	--	--	--
3	10	433	538	604	--	--	--
7	10	411	519	587	--	--	--
15	10	374	486	559	--	--	--
30	10	318	427	503	--	--	--
60	10	266	382	469	--	--	--
90	10	240	349	431	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

POWDER RIVER BASIN

13286700 POWDER RIVER NEAR RICHLAND, OR

LOCATION.--Lat 44°46'40", long 117°17'30", in SE 1/4 sec.14, T.9 S., R.44 E., Baker County, Hydrologic Unit 17050203, on left bank 0.4 mi upstream from Upper Timber Canyon, 6.0 mi west of Richland, and at mile 20.3.

DRAINAGE AREA.--1,310 mi², approximately.

PERIOD OF RECORD.--October 1957 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 2,277.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Phillips Lake since October 1967, usable capacity, 90,540 acre-ft, Wolf Creek Reservoir since April 1975, usable capacity, 10,400 acre-ft, Thief Valley Reservoir since February 1932, usable capacity, 17,400 acre-ft, and Pilcher Creek Reservoir since April 1984, usable capacity, 5,560 acre-ft. Diversions for irrigation upstream and downstream from station.

AVERAGE DISCHARGE.--30 years, 278 ft³/s, 201,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,090 ft³/s Feb. 21, 1982, gage height, 7.50 ft, from floodmark; maximum gage height, 9.29 ft Jan. 15, 1974 (ice jam); minimum discharge, 0.80 ft³/s Aug. 11, 12, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1967

{Low-flow statistics not computed due to insufficient period of record}

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		10	10	10	10	10	10
1	10	1120	1840	2480	--	--	--
3	10	1070	1770	2380	--	--	--
7	10	1000	1620	2140	--	--	--
15	10	894	1400	1800	--	--	--
30	10	736	1140	1460	--	--	--
60	10	541	836	1090	--	--	--
90	10	467	738	971	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1958-1967

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
811	1290	2000	2500	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = -0.165

POWDER RIVER BASIN

13286700 POWDER RIVER NEAR RICHLAND, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	17	8.7	5.6	3.8	--	--
3	19	23	11	7.0	4.4	--	--
7	19	31	16	9.9	6.2	--	--
14	19	38	21	13	8.4	--	--
30	19	41	24	17	12	--	--
60	19	50	31	23	18	--	--
90	19	58	35	26	20	--	--
120	19	61	37	28	22	--	--
183	19	74	43	32	25	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20	1500	2370	2810	3210	3430	--
3	20	1370	2210	2640	3060	3290	--
7	20	1200	1930	2320	2690	2900	--
15	20	1010	1610	1940	2260	2450	--
30	20	864	1370	1630	1900	2050	--
60	20	729	1160	1390	1630	1780	--
90	20	646	1050	1280	1520	1660	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

POWDER RIVER BASIN

13288200 EAGLE CREEK ABOVE SKULL CREEK, NEAR NEW BRIDGE, OR

LOCATION.--Lat $44^{\circ}52'50''$, long $117^{\circ}15'10''$, in SE 1/4 sec.7, T.8 S., R.45 E., Baker County, Hydrologic Unit 17050203, Wallowa-Whitman National Forest, on left bank 0.5 mi upstream from Skull Creek, 6.5 mi northwest of New Bridge, and at mile 10.5.

DRAINAGE AREA.--156 mi².

PERIOD OF RECORD.--October 1957 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft, from topographic map.

REMARKS.--No regulation. Some diversions upstream from station for irrigation and one small interbasin diversion for irrigation supply. All diversions are small compared to flow at station during irrigation season.

AVERAGE DISCHARGE.--30 years, 324 ft³/s, 234,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,310 ft³/s July 12, 1975, gage height, 5.06 ft, from rating curve extended above 2,500 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 6.88 ft Jan. 25, 1962 (ice jam); minimum daily discharge, 30 ft³/s Nov. 28, 1976.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	64	51	44	39	34	31
3	29	66	56	52	48	45	43
7	29	71	60	56	52	48	46
14	29	76	65	60	56	52	49
30	29	82	71	66	62	58	55
60	29	90	77	71	66	61	58
90	29	94	80	74	69	64	62
120	29	99	85	79	74	70	67
183	29	107	92	85	81	76	74

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	1910	2340	2530	2710	2800	2880
3	30	1780	2210	2420	2610	2720	2810
7	30	1640	2050	2230	2400	2500	2570
15	30	1480	1830	1980	2110	2170	2210
30	30	1310	1580	1670	1730	1750	1770
60	30	1070	1310	1410	1500	1540	1570
90	30	893	1090	1160	1220	1250	1270

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1958-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1640	2120	2800	3270	3880	4350	4830	

Systematic n = 30 historical n = 0
Weighted skew = 0.298

POWDER RIVER BASIN

13289500 POWDER RIVER NEAR ROBINETTE, OR

LOCATION.--Lat 44°46'10", long 117°04'10", in E-1/2 sec.22, T.9 S., R.46 E., Baker County, Hydrologic Unit 17050203, on left bank 2.2 mi northwest of Robinette and 2.5 mi upstream from mouth.

DRAINAGE AREA.--1,660 mi², approximately.

PERIOD OF RECORD.--September 1928 to September 1957.

GAGE.--Water-stage recorder. Datum of gage is 1,937.10 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 24, 1936, staff gage at site 0.5 mi upstream at different datum. Aug. 24, 1936, to Oct. 31, 1948, staff gage at site 50 ft upstream at present datum.

REMARKS.--Flow partly regulated by several reservoirs, the largest being Thief Valley Reservoir (capacity, 17,000 acre-ft). Many diversions for irrigation upstream from station. One canal with capacity of about 5 ft³/s diverts around station on left bank.

AVERAGE DISCHARGE.--29 years (water years 1929-57), 534 ft³/s, 386,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,500 ft³/s May 27, 1956, gage height, 6.38 ft; minimum observed, 18 ft³/s Sept. 2-10, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	28	66	39	29	22	16	12
3	28	69	42	31	23	17	13
7	28	73	44	33	25	18	14
14	28	78	47	34	26	19	15
30	28	84	50	37	28	20	16
60	28	95	57	42	32	23	18
90	28	107	65	48	36	26	20
120	28	122	77	58	44	32	26
183	28	150	101	81	66	52	44

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29	2510	3680	4360	5130	5630	6080
3	29	2370	3480	4130	4860	5340	5770
7	29	2190	3280	3930	4670	5170	5620
15	29	1980	2980	3590	4280	4750	5170
30	29	1700	2540	3070	3680	4100	4490
60	29	1480	2150	2560	3020	3330	3610
90	29	1290	1870	2230	2640	2930	3190

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1957

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1660	2630	3960	4800	5810	6520	7200	

Systematic n = 29 historical n = 0
Weighted skew = -0.439

PINE CREEK BASIN

13290190 PINE CREEK NEAR OXBOW, OR

LOCATION.--Lat 44°57'13", long 116°52'21", in NE 1/4 SW 1/4 sec.17, T.7 S., R.48 E., Baker County, Hydrologic Unit 17050201, 1.8 mi south of Oxbow, and at mile 1.9.

DRAINAGE AREA.--230 mi², approximately.

PERIOD OF RECORD.--November 1966 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,850.48 ft above National Geodetic Vertical Datum of 1929 (levels by Idaho Power Co.). Prior to Aug. 24, 1967, nonrecording gage at site 1.7 mi downstream at different datum.

REMARKS.--Diversions upstream from station for irrigation of about 19,000 acres (1966 determination).

AVERAGE DISCHARGE.--20 years, 378 ft³/s, 273,900 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,110 ft³/s Feb. 21, 1968, gage height, 9.82 ft; minimum discharge, 10 ft³/s Aug. 17-24, 1977, gage height, 2.12 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	20	36	25	20	16	12	--	
3	20	36	25	20	16	12	--	
7	20	38	26	21	17	13	--	
14	20	40	27	21	17	13	--	
30	20	42	29	24	20	16	--	
60	20	49	34	27	22	17	--	
90	20	56	40	32	26	20	--	
120	20	65	47	39	33	27	--	
183	20	100	72	60	51	42	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	20	2550	3600	3980	4240	4350	--	
3	20	2180	2840	3010	3100	3130	--	
7	20	1870	2260	2330	2360	2360	--	
15	20	1580	1830	1860	1860	1870	--	
30	20	1320	1520	1540	1550	1550	--	
60	20	1120	1260	1270	1270	1270	--	
90	20	992	1120	1130	1130	1130	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1967-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2010	3020	4590	5750	7330	8590	--	

Systematic n = 21 historical n = 0
Weighted skew = 0.099

IMNAHA RIVER BASIN

13292000 IMNAHA RIVER AT IMNAHA, OR

LOCATION.--Lat $45^{\circ}33'45''$, long $116^{\circ}50'00''$, in SW 1/4 sec.16, T.1 N., R.48 E., Wallowa County, Hydrologic Unit 17060102, on left bank at Imnaha, 0.3 mi downstream from Big Sheep Creek, and at mile 19.3.

DRAINAGE AREA.--622 mi².

PERIOD OF RECORD.--June 1928 to 1987.

REVISED RECORDS.--WSP 833: 1938. WSP 1397: 1929, 1932(M), 1949. WSP 1737: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,941.14 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 6, 1934, nonrecording gage at site 0.25 mi upstream at different datum. Aug. 6-31, 1934, nonrecording gage at present site and datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station. Water is diverted from Big Sheep Creek and tributaries upstream from station for irrigation in Wallowa River basin.

AVERAGE DISCHARGE.--59 years, 519 ft³/s, 376,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s Jan. 17, 1974, gage height, 7.86 ft, from rating curve extended above 3,500 ft³/s; minimum discharge observed, 16 ft³/s Nov. 22, 1931, result of freezeup; minimum daily, 25 ft³/s Nov. 22, 23, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	58	71	49	40	34	27	24
3	58	85	62	52	45	37	33
7	58	99	78	68	60	52	47
14	58	110	89	80	72	65	60
30	58	121	99	89	81	73	68
60	58	130	106	95	87	78	72
90	58	139	113	101	92	82	76
120	58	147	119	106	96	86	80
183	58	168	130	114	102	90	82

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	59	2470	3490	4150	4980	5590	6200
3	59	2310	3160	3680	4300	4740	5150
7	59	2130	2870	3310	3820	4160	4470
15	59	1930	2570	2940	3350	3630	3880
30	59	1740	2270	2570	2880	3080	3260
60	59	1540	1990	2220	2450	2600	2720
90	59	1340	1720	1900	2090	2200	2300

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1850	2700	4030	5010	6370	7470	8640	

Systematic n = 59 historical n = 0
Weighted skew = 0.207

GRANDE RONDE RIVER BASIN

13318500 GRANDE RONDE RIVER NEAR HILGARD, OR

LOCATION.--Lat 45°19'06", long 118°16'15", near center of sec.11, T.3 S., R.36 E., Union County, Hydrologic Unit 17060104, on right bank half a mile upstream from lower reservoir site of Bureau of Reclamation, 0.8 mi upstream from Spring Creek, and 3 mi southwest of Hilgard.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--January 1938 to September 1956. Monthly discharge only prior to October 1945, published in WSP 1317.

GAGE.--Water-stage recorder. Datum of gage is 3,058.05 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 16, 1946, water-stage recorder at site 800 ft upstream at different datum.

REMARKS.--Several small diversions for irrigation upstream from station. Since 1909, city of La Grande has diverted about 3 ft³/s for municipal use at Beaver Creek Reservoir (capacity, about 900 acre-ft).

AVERAGE DISCHARGE.--18 years (water years 1939-56), 274 ft³/s, 198,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,060 ft³/s May 8, 1956, gage height, 6.48 ft, from rating curve extended above 3,100 ft³/s; minimum, 6 ft³/s Aug. 10, 12-29, Sept. 1-4, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	14	9.6	8.0	6.9	--	--
3	19	14	9.8	8.2	7.1	--	--
7	19	15	10	8.5	7.2	--	--
14	19	16	11	9.1	7.6	--	--
30	19	18	12	9.8	8.3	--	--
60	19	20	15	12	11	--	--
90	19	23	17	15	14	--	--
120	19	26	20	19	18	--	--
183	19	42	28	23	21	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1938-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	1700	2310	2720	3250	--	--
3	19	1500	2060	2470	3020	--	--
7	19	1320	1820	2190	2690	--	--
15	19	1150	1580	1870	2230	--	--
30	19	981	1350	1610	1960	--	--
60	19	860	1170	1390	1670	--	--
90	19	731	991	1170	1390	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1938-1956

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1630	2230	3030	3550	4180	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = -0.107

GRANDE RONDE RIVER BASIN

13318800 GRANDE RONDE RIVER AT HILGARD, OR

LOCATION.--Lat 45°20'21", long 118°14'35", in NE 1/4 NE 1/4 sec.1, T.3 S., R.36 E., Union County, Hydrologic Unit 17060104, on left bank 8.8 mi northwest of La Grande, 1.6 mi upstream from Fivepoint Creek, and at mile 171.3.

DRAINAGE AREA.--555 mi².

PERIOD OF RECORD.--October 1966 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 2,993.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Slight regulation by city of La Grande reservoir on Beaver Creek, capacity, about 900 acre-ft. Diversions for irrigation upstream from station. Since 1909, city of La Grande has diverted about 3 ft³/s from Beaver Creek upstream from station for municipal use.AVERAGE DISCHARGE.--16 years, 299 ft³/s, 216,600 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,740 ft³/s Mar. 13, 1972, gage height, 7.18 ft; maximum gage height, 12.25 ft Jan. 15, 1974 (ice jam); minimum discharge, 9.6 ft³/s Aug. 17, 18, 23, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	18	14	12	11	--	--
3	14	19	15	13	11	--	--
7	14	21	16	13	11	--	--
14	14	22	17	14	12	--	--
30	14	24	19	16	14	--	--
60	14	29	22	19	16	--	--
90	14	31	24	21	18	--	--
120	14	33	26	23	21	--	--
183	14	52	40	35	32	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	2000	2650	3110	3720	--	--
3	15	1790	2330	2690	3130	--	--
7	15	1500	1970	2290	2700	--	--
15	15	1260	1690	1960	2290	--	--
30	15	1080	1450	1650	1870	--	--
60	15	914	1230	1380	1540	--	--
90	15	801	1080	1210	1340	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1967-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1740	2380	3230	3770	4430	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.111

GRANDE RONDE RIVER BASIN

13319000 GRANDE RONDE RIVER AT LA GRANDE, OR

LOCATION.--Lat $45^{\circ}20'47''$, long $118^{\circ}07'26''$, in NW 1/4 SE 1/4 sec.36, T.2 S., R.37 E., Union County, Hydrologic Unit 17060104, on right bank 1.8 mi northwest of La Grande, 5.7 mi downstream from Fivepoint Creek, and at mile 164.0.

DRAINAGE AREA.--678 mi².

PERIOD OF RECORD.--October 1903 to September 1915, February 1918 to September 1923, October 1925 to 1987. Monthly discharge only for some periods, published in WSP 1317. Published as "at Hilgard" 1903-15.

REVISED RECORDS.--WSP 768: 1933. WSP 1397: 1904-11, 1913, 1915, 1919-20, 1922-23, 1926, 1929-31, 1936-37, 1939, 1942. WSP 1737: Drainage area. WRD Oreg. 1974: 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 2,826.25 ft above National Geodetic Vertical Datum of 1929. Nov. 6, 1903, to Sept. 30, 1915, nonrecording gage at site 5.5 mi upstream at various datums. Feb. 16, 1918, to June 28, 1923, and Oct. 1, 1925, to Nov. 23, 1931, nonrecording gage at site 0.7 mi downstream at various datums. Nov. 24, 1931, to Oct. 8, 1965, water-stage recorder at site 0.3 mi upstream at datum 4.61 ft higher.

REMARKS.--Since 1915, slight regulation by city of La Grande reservoir on Beaver Creek, capacity, about 900 acre-ft. Diversions for irrigation upstream from station. Since 1909, city of La Grande has diverted about 3 ft³/s from Beaver Creek upstream from station for domestic water supply.

AVERAGE DISCHARGE.--79 years, 389 ft³/s, 281,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s Jan. 30, 1965, gage height, 11.44 ft, site and datum then in use, from rating curve extended above 7,200 ft³/s; minimum discharge, 3.9 ft³/s Aug. 26, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1919-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	66	16	10	8.0	6.4	4.9	4.0
3	66	17	11	8.3	6.6	4.9	4.0
7	66	18	11	8.8	6.9	5.2	4.3
14	66	19	12	9.7	7.8	6.0	5.0
30	66	22	14	11	9.3	7.3	6.2
60	66	25	17	14	12	9.9	8.7
90	66	29	20	17	15	13	11
120	66	33	24	21	19	17	15
183	66	55	35	28	23	19	17

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1919-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	67	2830	4240	5230	6550	7570	8630
3	67	2470	3590	4350	5330	6080	6840
7	67	2120	2940	3440	4040	4450	4850
15	67	1790	2450	2830	3270	3560	3830
30	67	1500	2050	2370	2730	2960	3180
60	67	1260	1710	1960	2240	2420	2580
90	67	1080	1460	1680	1930	2090	2240

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1918-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2290	3260	4840	6040	7760	9190	10700	

Systematic n = 68 historical n = 0
Weighted skew = 0.376

GRANDE RONDE RIVER BASIN

13320000 CATHERINE CREEK NEAR UNION, OR

LOCATION.--Lat 45°09'20", long 117°46'26", in NW 1/4 SE 1/4 sec.2, T.5 S., R.40 E., Union County, Hydrologic Unit 17060104, on right bank 3.0 mi downstream from Little Catherine Creek, 5.5 mi southeast of Union, and at mile 25.4.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--May 1906 to May 1907 (gage heights only), August 1911 to December 1912, March to September 1915, February 1918 to September 1919, October 1925 to 1987. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1912-13, 1919, 1926, 1928-33, 1937, 1939, 1940(M), 1941-43, 1950.

GAGE.--Water-stage recorder. Datum of gage is 3,081.76 ft above National Geodetic Vertical Datum of 1929 (Oregon State Highway Department bench mark). Prior to Nov. 28, 1938, nonrecording gage at several sites within 1.8 mi of present site at various datums. Nov. 28, 1938, to May 16, 1939, water-stage recorder at site 400 ft downstream at datum 4.29 ft lower.

REMARKS.--No regulation. Several small diversions for irrigation upstream from station. Since 1937, diversion to Big Creek in Powder River basin provides a small part of the water used for irrigation in that basin.

AVERAGE DISCHARGE.--64 years (water years 1912, 1919, 1926-87), 119 ft³/s, 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft³/s May 27, 1948, gage height, 4.57 ft; minimum discharge, 6.5 ft³/s Feb. 4, 1955, result of freezeup; minimum daily, 8 ft³/s Nov. 7, 1925.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	19	15	14	13	11	11
3	51	21	17	16	15	14	13
7	51	22	18	17	16	15	14
14	51	23	20	18	17	16	15
30	51	25	21	20	19	18	17
60	51	27	23	22	21	20	19
90	51	28	24	23	21	20	19
120	51	30	25	24	22	21	20
183	51	35	29	26	25	23	22

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	64	697	931	1070	1240	1360	1470
3	64	666	889	1020	1160	1260	1350
7	64	612	818	936	1070	1160	1240
15	64	539	712	811	921	994	1060
30	64	467	615	699	791	852	907
60	64	393	505	564	626	665	698
90	64	328	414	459	504	532	555

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1912-1987

	2 80%	5 50%	10 20%	25 10%	50 4%	100 2%	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT	
							2 50%	5 20%
	567	762	1010	1170	1360	1490	1620	

Systematic n = 66 historical n = 0
Weighted skew = -0.149

GRANDE RONDE RIVER BASIN

13323500 GRANDE RONDE RIVER NEAR ELGIN, OR

LOCATION.--Lat $45^{\circ}30'45''$, long $117^{\circ}55'35''$, in NW 1/4 NW 1/4 sec.3, T.1 S., R.39 E., Union County, Hydrologic Unit 17060104, on right bank 700 ft upstream from abandoned highway bridge, 1.9 mi downstream from Willow Creek, 3.6 mi south of Elgin, and at mile 104.2.

DRAINAGE AREA.--1,250 mi², approximately.

PERIOD OF RECORD.--August 1955 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 2,660.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--26 years, 668 ft³/s, 484,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,480 ft³/s Feb. 2, 1965, gage height, 13.79 ft; no flow Aug. 20-24, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1981

[Low-flow statistics uncertain due to upstream diversion]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	11	4.1	2.3	1.0	0.0	0.0
3	25	11	4.5	2.5	1.1	0.0	0.0
7	25	13	5.4	3.2	1.5	0.0	0.0
14	25	21	6.8	3.8	1.9	0.2	0.1
30	25	26	9.5	4.6	2.2	0.8	0.4
60	25	33	15	8.9	5.5	2.9	1.9
90	25	43	22	15	10	6.5	4.7
120	25	57	35	26	20	15	12
183	25	109	75	62	53	44	40

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	3370	4580	5230	5900	6310	6660
3	26	3230	4410	5040	5680	6070	6400
7	26	2920	4060	4690	5370	5810	6190
15	26	2550	3510	4040	4600	4960	5270
30	26	2210	3030	3460	3920	4200	4440
60	26	1890	2610	3000	3410	3660	3870
90	26	1690	2340	2680	3020	3220	3380

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1948-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2480	3410	4600	5330	6200	6810	7390	

Systematic n = 26 historical n = 34

Weighted skew = -0.258

GRANDE RONDE RIVER BASIN

13323600 INDIAN CREEK NEAR IMBLER, OR

LOCATION.--Lat $45^{\circ}26'00''$, long $117^{\circ}49'20''$, S-1/2 sec.33, T.1 S., R.40 E., Union County, Hydrologic Unit 17060104, 600 ft upstream from North Fork and 7 mi southeast of Imbler.DRAINAGE AREA.--22 mi², approximately.

PERIOD OF RECORD.--March 1938 to September 1950.

GAGE.--Water-stage recorder. Elevation of gage is 3,800 ft, from topographic map.

REMARKS.--No diversion or regulation upstream from station.

COOPERATION.--Records for 1938-45 furnished by Oregon Water Resources Department.

AVERAGE DISCHARGE.--12 years (water years 1939-50), 41.5 ft³/s.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 818 ft³/s May 27, 1948, from rating curve extended above 400 ft³/s; maximum gage height, 4.09 ft sometime during period Jan. 4-7, 1947 (ice jam); minimum observed, 0.1 ft³/s Nov. 15, 1939.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1939-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	2.8	1.9	1.5	--	--	--
3	12	2.9	2.0	1.5	--	--	--
7	12	3.1	2.0	1.6	--	--	--
14	12	3.4	2.2	1.7	--	--	--
30	12	3.6	2.4	1.8	--	--	--
60	12	3.8	2.8	2.4	--	--	--
90	12	4.1	3.2	2.9	--	--	--
120	12	4.6	3.5	3.1	--	--	--
183	12	5.9	4.1	3.5	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	369	501	591	--	--	--
3	12	350	465	538	--	--	--
7	12	314	406	457	--	--	--
15	12	266	347	393	--	--	--
30	12	227	298	339	--	--	--
60	12	178	222	243	--	--	--
90	12	138	170	186	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1938-1950

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
305	427	590	694	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = -0.158

GRANDE RONDE RIVER BASIN

13325001 EAST FORK WALLA RIVER NEAR JOSEPH, OR

LOCATION.--Lat 45°16'20", long 117°12'35", in NE 1/4 sec.29, T.3 S., R.45 E., Wallowa County, Hydrologic Unit 17060105, on left bank 0.2 mi upstream from confluence with West Fork, 1.0 mi upstream from Wallowa Lake, 5.5 mi south of Joseph, and at mile 0.2.

DRAINAGE AREA.--10.3 mi².

PERIOD OF RECORD.--July 1924 to September 1983. Prior to October 1952, records published separately as East Fork Wallowa River near Joseph and Wallowa Falls powerplant tailrace near Joseph.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,517.69 ft above National Geodetic Vertical Datum of 1929 (Pacific Power & Light Co. bench mark). Prior to Apr. 8, 1950, nonrecording gage at same site and datum.

REMARKS.--All records present herein include flow in Wallowa Falls powerplant tailrace of Pacific Power & Light Co. Most of low flow is diverted at dam 1.5 mi upstream into a conduit 1.0 mi above Wallowa Falls powerhouse and discharged into West Fork 0.4 mi below powerhouse.

AVERAGE DISCHARGE.--59 years, 21.9 ft³/s, 28.87 in/yr, 15,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 450 ft³/s July 25, 1937 (no flow in powerplant tailrace), from rating curve extended above 80 ft³/s; minimum daily, 4.6 ft³/s Feb. 17, 1978.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1954-1983

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	9.6	7.9	6.9	6.1	5.2	4.6
3	30	10	8.6	7.8	7.1	6.3	5.8
7	30	10	9.0	8.4	8.0	7.5	7.1
14	30	10	9.3	8.7	8.2	7.6	7.3
30	30	11	9.6	8.9	8.4	7.7	7.3
60	30	12	10	9.6	9.0	8.3	7.8
90	30	12	11	9.8	9.2	8.6	8.2
120	30	13	11	10	9.7	8.9	8.5
183	30	14	12	11	10	9.6	9.1

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1953-1983

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	100	131	149	172	187	203
3	31	95	124	142	163	178	192
7	31	88	115	132	153	168	183
15	31	80	103	117	134	146	158
30	31	71	90	101	114	122	130
60	31	59	73	81	88	93	97
90	31	49	60	65	71	74	77

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

GRANDE RONDE RIVER BASIN

13327500 WALLOWA RIVER AT JOSEPH, OR

LOCATION.--Lat $45^{\circ}20'15''$, long $117^{\circ}13'35''$, in NW 1/4 sec.5, T.3 S., R.45 E., Wallowa County, Hydrologic Unit 17060105, on left bank 0.2 mi downstream from Wallowa Lake dam, 1.1 mi south of Joseph, and at mile 50.0.

DRAINAGE AREA.--50.9 mi².

PERIOD OF RECORD.--November 1903 to August 1907, June 1908 to March 1914, May to September 1915, December 1926 to 1987. Monthly discharge only for some periods, published in WSP 1317. Published as "near Joseph" 1911.

REVISED RECORDS.--WSP 1397: 1906. WSP 1737: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,326.86 ft above National Geodetic Vertical Datum of 1929. Nov. 12, 1903, to Sept. 25, 1915, nonrecording gage at several sites at lake outlet or near present site at different datums.

REMARKS.--Silver Lake ditch diverts at Wallowa Lake dam for irrigation northeast of Joseph. City of Joseph diverts less than 1.0 ft³/s from Wallowa Lake for municipal use.

AVERAGE DISCHARGE.--60 years (water years 1928-87), 134 ft³/s, 35.75 in/yr, 97,080 acre-ft/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft³/s June 10, 1969, gage height, 5.15 ft; no flow at times in some years.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1905-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	58	12	5.8	3.8	2.7	1.7	1.3
3	58	13	6.2	4.0	2.8	1.8	1.3
7	58	14	6.7	4.5	3.2	2.1	1.6
14	58	15	7.5	5.2	3.7	2.6	2.0
30	58	16	8.4	5.9	4.3	3.0	2.4
60	58	20	11	7.9	6.0	4.3	3.4
90	58	22	12	8.7	6.7	5.0	4.0
120	58	23	13	9.8	7.7	5.9	5.0
183	58	27	15	11	9.0	6.8	5.7

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1905-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	57	559	730	852	1020	1150	1280
3	57	552	710	817	957	1060	1170
7	57	528	663	752	862	944	1030
15	57	486	591	653	724	772	817
30	57	421	513	564	620	657	691
60	57	365	439	478	519	545	569
90	57	329	393	426	461	483	501

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

GRANDE RONDE RIVER BASIN

13329500 HURRICANE CREEK NEAR JOSEPH, OR

LOCATION.--Lat 45°20'15", long 117°17'30", in NE 1/4 sec.3, T.3 S., R.44 E., Wallowa County, Hydrologic Unit 17060105, on left bank 350 ft upstream from intake of Moonshine Ditch, 3.5 mi southwest of Joseph, and at mile 7.5.

DRAINAGE AREA.--29.6 mi².

PERIOD OF RECORD.--April to September 1915, April 1924 to 1978. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Elevation of gage is 4,500 ft, by barometer. Apr. 27 to Sept. 3, 1915, nonrecording gage at site 250 ft downstream at different datum. Apr. 23, 1924, to June 13, 1933, water-stage recorder at site 150 ft downstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--54 years, 74.3 ft³/s, 34.09 in/yr, 53,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft³/s June 9, 1948, gage height, 3.55 ft; maximum gage height, 6.94 ft June 4, 1977, backwater from debris; minimum discharge, 2.8 ft³/s Mar. 2, 1955, result of ice jam upstream; minimum daily, 6.0 ft³/s Jan. 6, Apr. 13, 1945.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	53	13	9.9	8.4	7.2	6.0	5.3
3	53	14	10	8.9	7.7	6.5	5.8
7	53	14	11	9.3	8.1	6.9	6.1
14	53	15	11	9.8	8.5	7.2	6.4
30	53	16	13	11	9.7	8.4	7.6
60	53	18	14	12	11	9.3	8.5
90	53	19	15	13	11	9.9	9.0
120	53	21	16	14	12	11	9.7
183	53	24	19	16	15	13	12

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	54	436	561	635	722	782	838
3	54	407	522	590	669	724	775
7	54	369	474	535	606	655	701
15	54	327	418	471	530	571	608
30	54	293	365	403	443	469	492
60	54	247	301	328	355	372	386
90	54	204	246	267	287	298	308

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1978

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
402	548	738	858	1010	1110	1220	

Systematic n = 55 historical n = 0
Weighted skew = -0.129

GRANDE RONDE RIVER BASIN

13330000 LOSTINE RIVER NEAR LOSTINE, OR

LOCATION.--Lat 45°26'20", long 117°25'35", in NW 1/4 sec.34, T.1 S., R.43 E., Wallowa County, Hydrologic Unit 17060105, on left bank 3.5 mi south of Lostine and at mile 10.0.

DRAINAGE AREA.--70.9 mi².

PERIOD OF RECORD.--August 1912 to March 1914, April to September 1915, July 1925 to 1987. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1913, 1942. WSP 1737: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,650 ft, by barometer. See WSP 1317 or 1737 for history of changes prior to Dec. 16, 1953. Dec. 16, 1953, to Aug. 23, 1977, at datum 1.04 ft higher.

REMARKS.--Minam Lake Reservoir, capacity 440 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--63 years (water years 1913, 1926-87), 195 ft³/s, 141,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft³/s June 16, 1974, gage height, 8.59 ft, present datum; minimum discharge, 7.5 ft³/s Mar. 2, 1966, result of freezeup; minimum daily, 10 ft³/s Nov. 28-30, 1936.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1914-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	62	23	18	15	14	12	11
3	62	24	19	16	14	13	11
7	62	26	20	18	16	14	12
14	62	28	21	18	16	14	13
30	62	30	23	20	18	15	14
60	62	34	26	22	19	17	15
90	62	37	27	23	20	17	16
120	62	41	29	24	21	18	16
183	62	47	33	27	24	20	18

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	63	1380	1710	1900	2120	2270	2410
3	63	1300	1610	1790	2000	2140	2270
7	63	1160	1460	1650	1860	2010	2150
15	63	1010	1290	1450	1650	1790	1920
30	63	901	1120	1240	1380	1470	1560
60	63	733	885	966	1050	1110	1150
90	63	592	709	768	829	866	898

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

GRANDE RONDE RIVER BASIN

13330500 BEAR CREEK NEAR WALLOWA, OR

LOCATION.--Lat $45^{\circ}31'37''$, long $117^{\circ}33'05''$, in NW 1/4 NE 1/4 sec.34, T.1 N., R.42 E., Wallowa County, Hydrologic Unit 17060105, on right bank 30 ft downstream from road bridge, 3.0 mi southwest of Wallowa, and at mile 4.4.

DRAINAGE AREA.--68 mi², approximately.

PERIOD OF RECORD.--April to September 1915, April 1924 to September 1985. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Elevation of gage is 3,250 ft, by barometer. Apr. 13 to Sept. 16, 1915, non-recording gage at site 1.0 mi upstream at different datum. Apr. 22, 1924, to Nov. 2, 1931, water-stage recorder at site 1.5 mi upstream at different datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station. Water for irrigation in Lostine River basin diverted from Little Bear Creek, a tributary upstream from station, in sec.32, T.1 S., R.43 E.

AVERAGE DISCHARGE.--60 years (water years 1925-85), 114 ft³/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,730 ft³/s June 15, 1974; maximum gage height, 3.82 ft Apr. 22, 1936 (from floodmark); minimum daily discharge, 3 ft³/s Jan. 20, Feb. 1, 1937.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	61	9.4	7.1	6.0	5.2	4.3	3.8
3	61	9.4	7.2	6.2	5.5	4.7	4.2
7	61	9.7	7.4	6.5	5.7	5.0	4.5
14	61	10	7.8	6.7	5.9	5.1	4.7
30	61	11	8.4	7.3	6.5	5.7	5.2
60	61	12	9.3	8.0	7.1	6.2	5.7
90	61	14	10	9.0	8.0	7.2	6.7
120	61	17	12	10	8.8	7.6	6.9
183	61	25	16	12	10	8.1	7.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	61	763	998	1150	1340	1480	1620
3	61	703	909	1040	1210	1340	1460
7	61	628	812	933	1090	1200	1320
15	61	545	699	799	924	1020	1110
30	61	488	611	684	769	827	882
60	61	409	495	541	588	618	645
90	61	338	402	433	463	481	496

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
692	920	1220	1410	1640	1810	1980	

Systematic n = 61 historical n = 0
Weighted skew = -0.050

GRANDE RONDE RIVER BASIN

13331500 MINAM RIVER AT MINAM, OR
(Hydrologic bench-mark station)

LOCATION.--Lat 45°37'12", long 117°43'32", in SW 1/4 SW 1/4 sec.29, T.2 N., R.41 E., Wallowa County, Hydrologic Unit 17060105, on left bank 2.3 mi downstream from Squaw Creek, 0.3 mi west of Minam, and at mile 0.3.

DRAINAGE AREA.--240 mi², approximately.

PERIOD OF RECORD.--June 1912 to March 1914, September 1965 to 1987. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Datum of gage is 2,540.48 ft above National Geodetic Vertical Datum of 1929. June 1912 to March 1914, nonrecording gage at approximately same site at different datum.

REMARKS.--No regulation. Minam Lake, capacity 440 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin.

AVERAGE DISCHARGE.--23 years, 470 ft³/s, 26.59 in/yr, 340,500 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,260 ft³/s June 16, 1974, gage height, 6.89 ft; maximum gage height, 7.3 ft May 28, 1913, datum then in use; minimum discharge, 10 ft³/s Dec. 6, 1972, Jan. 10, 1973, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1914-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	51	32	24	18	13	--
3	22	59	39	30	23	16	--
7	22	65	46	35	27	19	--
14	22	67	51	44	38	32	--
30	22	74	60	55	51	47	--
60	22	83	67	61	56	51	--
90	22	92	73	65	59	54	--
120	22	102	80	70	64	57	--
183	22	137	103	89	79	69	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	2920	3820	4390	5080	5590	--
3	23	2720	3570	4120	4810	5320	--
7	23	2470	3250	3750	4370	4830	--
15	23	2160	2840	3250	3730	4070	--
30	23	1940	2440	2690	2940	3090	--
60	23	1590	1990	2180	2360	2470	--
90	23	1300	1610	1760	1890	1960	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1966-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2510	3290	4330	5000	5830	6440	--	

Systematic n = 22 historical n = 0
Weighted skew = 0.013

GRANDE RONDE RIVER BASIN

13332500 GRANDE RONDE RIVER AT RONDOWA, OR

LOCATION.--Lat 45°43'36", long 117°46'59", in SW 1/4 NW 1/4 sec.23, T.3 N., R.40 E., Wallowa County, Hydrologic Unit 17060106, on right bank at Rondowa, 500 ft downstream from Wallowa River, 13 mi northeast of Elgin, and at mile 81.4.

DRAINAGE AREA.--2,555 mi².

PERIOD OF RECORD.--October 1926 to 1987.

REVISED RECORDS.--WSP 1093: 1928-29, 1932-33, 1936, 1938, 1939(M), 1943. WSP 1397: 1927. WSP 1447: 1927.

GAGE.--Water-stage recorder. Datum of gage is 2,281.87 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow slightly regulated by Wallowa Lake (station 13326000) and small reservoirs. Diversions for irrigation upstream from station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Sheep Creek in Imnaha River basin for irrigation in Wallowa Valley.

AVERAGE DISCHARGE.--61 years, 2,170 ft³/s, 1,572,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,700 ft³/s Jan. 30, 1965, gage height, 10.93 ft; minimum discharge, 179 ft³/s Aug. 24, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	60	383	310	273	244	213	194
3	60	397	322	284	253	221	200
7	60	416	336	295	262	227	205
14	60	435	352	309	275	238	215
30	60	463	373	327	290	252	228
60	60	501	404	358	322	284	261
90	60	536	433	387	352	316	294
120	60	575	463	416	381	346	325
183	60	729	552	479	427	376	346

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	61	9230	12500	14500	17000	18700	20300
3	61	8680	11600	13400	15500	16900	18300
7	61	8020	10500	12000	13600	14600	15600
15	61	7160	9290	10500	11800	12600	13400
30	61	6330	8180	9210	10300	11100	11700
60	61	5640	7170	7960	8780	9280	9720
90	61	5020	6330	7010	7700	8110	8470

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7190	9830	13300	15600	18400	20500	22500	

Systematic n = 60 historical n = 0
Weighted skew = -0.084

GRANDE RONDE RIVER BASIN

13333000 GRANDE RONDE RIVER AT TROY, OR

LOCATION.--Lat 45°56'47", long 117°26'54", in NE 1/4 NW 1/4 sec.4, T.5 N., R.43 E., Wallowa County, Hydrologic Unit 17060106, on left bank 500 ft downstream from bridge at Troy, 600 ft downstream from Wenaha River, and at mile 45.2.

DRAINAGE AREA.--3,275 mi².

PERIOD OF RECORD.--August 1944 to 1987. Monthly discharge only August 1944, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1946(M), 1948-50.

GAGE.--Water-stage recorder. Datum of gage is 1,585.98 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1944, to Sept. 30, 1949, nonrecording gage at site 500 ft upstream at datum 10.85 ft lower. Oct. 1, 1949, to Sept. 5, 1963, water-stage recorder at site 500 ft upstream at datum 1.15 ft higher.

REMARKS.--Flow slightly regulated by Wallowa Lake (station 13326000) and small reservoirs. Diversions for irrigation upstream from station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Big Sheep Creek and tributaries in Imnaha River basin for irrigation in Wallowa Valley.

AVERAGE DISCHARGE.--43 years, 3,111 ft³/s, 2,254,000 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,200 ft³/s Dec. 23, 1964, gage height, 11.25 ft; minimum discharge, 344 ft³/s Aug. 19-21, 23, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1946-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	42	621	530	480	438	391	360
3	42	639	547	494	449	399	366
7	42	661	566	511	464	411	377
14	42	682	586	531	484	431	396
30	42	713	611	553	506	452	417
60	42	763	660	606	562	514	483
90	42	799	697	650	614	577	553
120	42	848	741	699	671	644	629
183	42	1110	910	827	767	707	672

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1945-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	43	13900	19400	22900	27300	30400	33600
3	43	12700	17100	19700	22800	25000	27000
7	43	11500	14800	16600	18500	19700	20800
15	43	10000	12500	13800	15000	15700	16300
30	43	8690	10900	12000	13000	13600	14000
60	43	7670	9630	10600	11400	11900	12300
90	43	6990	8700	9480	10200	10600	10900

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1945-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
10600	15200	21400	25500	30700	34600	38400	

Systematic n = 43 historical n = 0

Weighted skew = -0.098

COLUMBIA RIVER BASIN

WALLA WALLA RIVER BASIN

14010000 SOUTH FORK WALLA WALLA RIVER NEAR MILTON-FREEWATER, OR

LOCATION.--Lat $45^{\circ}49'48''$, long $118^{\circ}10'08''$, in NE 1/4 NE 1/4 sec.15, T.4 N., R.37 E., Umatilla County, Hydrologic Unit 17070102, on right bank 1.0 mi downstream from Elbow Creek, 13 mi southeast of Milton-Freewater, and at mile 59.1.

DRAINAGE AREA.--63 mi², approximately.

PERIOD OF RECORD.--February to October 1903, August 1906 to November 1917, May 1931 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as "12 mi above Milton" 1903, as "above Pacific Power & Light Co.'s intake near Milton" 1907-10, and as "near Milton" 1911-17, 1931-85.

REVISED RECORDS.--WSP 964: Drainage area. WSP 1398: 1912, 1940, drainage area at former site.

GAGE.--Water-stage recorder. Elevation of gage is 2,050 ft from river-profile map. Prior to Mar. 23, 1934, water-stage recorder or nonrecording gage at several sites within 1.5 mi of present site at various datums.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--66 years (water years 1908-17, 1932-87), 178 ft³/s, 38.37 in/yr, 129,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,530 ft³/s Jan. 29, 1965, gage height, 5.60 ft; minimum discharge, 72 ft³/s Feb. 14, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage about 6 ft Mar. 31, 1931, present site and datum.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1908-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	64	99	89	85	81	78	75
3	64	99	89	85	82	78	76
7	64	100	90	86	83	79	77
14	64	101	91	87	83	80	77
30	64	102	93	88	85	81	79
60	64	105	95	90	86	83	80
90	64	106	96	91	88	84	81
120	64	108	98	93	90	86	83
183	64	119	106	101	97	93	91

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1908-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	65	632	890	1090	1370	1600	1850
3	65	545	723	847	1010	1140	1280
7	65	458	582	661	760	833	905
15	65	395	483	535	593	633	670
30	65	350	423	465	512	545	575
60	65	313	373	407	445	470	494
90	65	286	336	364	395	416	435

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1907-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
555	813	1240	1560	2020	2400	2820	

Systematic n = 64 historical n = 0
Weighted skew = 0.317

WALLA WALLA RIVER BASIN

14010500 SOUTH FORK WALLA WALLA RIVER BELOW PACIFIC POWER & LIGHT CO.'S PLANT, NEAR MILTON, OR

LOCATION.--Lat 45°53'00", long 118°16'25", in SE 1/4 NW 1/4 sec. 26, T.5 N., R.36 E., Umatilla County, Hydrologic Unit 17070102, 800 ft downstream from Pacific Power & Light Co. powerplant, 1.2 mi upstream from intake of Milton-Freewater city powerplant, 2 mi upstream from confluence with North Fork, and 5.8 mi southeast of Milton-Freewater.

DRAINAGE AREA.--80 mi², approximately. At site 1903-6, 1929-38, 81 mi², approximately.

PERIOD OF RECORD.--October 1904 to May 1906, January 1930 to September 1945.

GAGE.--Water-stage recorder. Datum of gage is 1,490.30 ft above National Geodetic Vertical Datum of 1929 (Pacific Power & Light Co. benchmark). Nov. 1, 1903, to May 29, 1906, staff gage and Dec. 18, 1929, to May 26, 1938, water-stage recorder at several sites within 1.2 mi of described site at various datums.

REMARKS.--Small diversions for irrigation of about 300 acres upstream from station. Since 1905, some diurnal fluctuation caused by powerplant upstream from station.

COOPERATION.--Records for 1929-40, furnished by the Oregon Water Resources Department.

AVERAGE DISCHARGE.--16 years (water years 1905, 1931-45), 169 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, probably occurred during floods of May 30, 31, 1906, or Mar. 31, 1931; maximum daily discharge, 3,000 ft³/s (estimated) May 30, 1906, and Mar. 31, 1931; minimum, 1 ft³/s (regulated) June 23, 1940; minimum daily, 57 ft³/s July 22, 1930.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1905-1945

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	17	82	72	67	63	--	--	
3	17	82	73	69	66	--	--	
7	17	83	75	71	69	--	--	
14	17	84	77	74	71	--	--	
30	17	86	78	75	72	--	--	
60	17	87	80	76	74	--	--	
90	17	89	81	78	75	--	--	
120	17	91	83	80	77	--	--	
183	17	103	92	87	83	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1904-1945

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	17	637	1040	1450	2220	--	--	
3	17	561	817	1040	1400	--	--	
7	17	486	663	788	952	--	--	
15	17	423	551	631	726	--	--	
30	17	373	464	515	572	--	--	
60	17	332	398	431	466	--	--	
90	17	300	356	385	415	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1904-1945

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
535	759	1090	1330	1640	--	--	

Systematic n = 16 historical n = 0
Weighted skew = 0.124

WALLA WALLA RIVER BASIN

14010800 NORTH FORK WALLA WALLA RIVER NEAR MILTON-FREEWATER, OR

LOCATION.--Lat $45^{\circ}53'06''$, long $118^{\circ}11'06''$, in SE 1/4 NW 1/4 sec.28, T.5 N., R.37 E., Umatilla County, Hydrologic Unit 17070102, on right bank 2.8 mi downstream from Little Meadow Canyon, 8.9 mi southeast of Milton-Freewater, and at mile 5.6.

DRAINAGE AREA.--34.4 mi².

PERIOD OF RECORD.--October 1969 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,940 ft, from topographic map.

REMARKS.--No regulation; one diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 52.9 ft³/s, 20.88 in/yr, 38,330 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,240 ft³/s Feb. 23, 1986, gage height, 7.02 ft; minimum discharge, 3.3 ft³/s Aug. 26-28, 1986.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1971-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	17	6.7	5.2	4.4	3.8	--	--	
3	17	6.7	5.2	4.5	3.9	--	--	
7	17	6.8	5.3	4.6	4.0	--	--	
14	17	6.9	5.4	4.7	4.1	--	--	
30	17	7.3	5.6	4.8	4.2	--	--	
60	17	7.8	6.0	5.1	4.4	--	--	
90	17	8.3	6.6	5.7	5.0	--	--	
120	17	9.2	7.5	6.6	6.0	--	--	
183	17	14	11	9.5	8.5	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	18	392	565	680	826	--	--	
3	18	338	451	517	592	--	--	
7	18	276	357	399	443	--	--	
15	18	217	279	309	338	--	--	
30	18	160	208	235	264	--	--	
60	18	130	167	185	204	--	--	
90	18	117	152	171	190	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1970-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
334	522	804	1000	1260	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = -0.143

WALLA WALLA RIVER BASIN

14011000 NORTH FORK WALLA WALLA RIVER NEAR MILTON, OR

LOCATION.--Lat 45°54'08", long 118°16'55", in NE 1/4 NW 1/4 sec.23, T.5 N., R.36 E., Umatilla County, Hydrologic Unit 17070102, on right bank 5 mi southeast of Milton-Freewater, and at mile 1.2.

DRAINAGE AREA.--43.8 mi².

PERIOD OF RECORD.--January 1930 to October 1969. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,467 ft above National Geodetic Vertical Datum of 1929 (levels by U.S.G.S. National Mapping Division). Prior to Oct. 23, 1948, at several sites 0.7 mi downstream at various datums. Oct. 23, 1948 to Mar. 4, 1968, at site 200 ft downstream at same datum.

REMARKS.--No regulation. Diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--39 years, 47.3 ft³/s, 34,270 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,050 ft³/s Jan. 30, 1965, gage height, 8.05 ft; minimum, 0.90 ft³/s Aug. 17, 1955, Aug. 28, 29, 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1969

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	39	2.1	1.4	1.2	1.0	0.8	0.7
3	39	2.2	1.6	1.3	1.1	0.9	0.8
7	39	2.5	1.8	1.5	1.3	1.1	0.9
14	39	2.6	2.0	1.7	1.5	1.3	1.2
30	39	2.8	2.2	1.9	1.7	1.6	1.4
60	39	3.4	2.5	2.2	1.9	1.7	1.6
90	39	4.1	3.1	2.6	2.3	1.9	1.7
120	39	5.3	4.0	3.5	3.1	2.7	2.4
183	39	11	7.1	5.8	4.9	4.1	3.7

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1969

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	39	368	596	811	1180	1530	1980
3	39	292	448	600	867	1140	1480
7	39	223	318	406	554	695	868
15	39	180	243	290	356	410	469
30	39	150	194	222	258	284	311
60	39	127	160	180	202	216	230
90	39	110	139	155	173	185	197

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1969

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
309	492	814	1080	1470	1800	2180	

Systematic n = 38 historical n = 0
Weighted skew = 0.282

UMATILLA RIVER BASIN

14020000 UMATILLA RIVER ABOVE MEACHAM CREEK, NEAR GIBBON, OR

LOCATION.--Lat 45°43'11", long 118°19'20", in SE 1/4 SW 1/4 sec.21, T.3 N., R.36 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on right bank 0.8 mi downstream from Ryan Creek, 2.2 mi upstream from Meacham Creek, 2.5 mi northeast of Gibbon, and at mile 83.1.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--April 1933 to 1987.

REVISED RECORDS.--WSP 1935: 1946-48(M), 1950(M), 1953(M), 1956-59(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,854.81 ft above National Geodetic Vertical Datum of 1929. Prior to June 27, 1939, at site 1 mi downstream at datum 43.94 ft lower.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--53 years, 228 ft³/s, 23.64 in/yr, 165,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,930 ft³/s Jan. 25, 1975, gage height, 9.18 ft, from rating curve extended above 3,500 ft³/s; maximum gage height, 9.50 ft Jan. 29, 1965; minimum discharge, 16 ft³/s Nov. 9, 1965, momentary regulation from unknown source.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	54	42	37	35	32	29	28
3	54	42	38	35	33	30	28
7	54	43	38	36	34	31	29
14	54	43	39	37	35	33	31
30	54	45	41	38	36	34	32
60	54	46	42	40	38	36	34
90	54	48	44	41	40	37	36
120	54	51	46	43	41	39	38
183	54	72	57	51	46	41	38

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	54	1640	2420	3020	3880	4590	5370
3	54	1350	1880	2250	2760	3160	3580
7	54	1040	1420	1670	2000	2260	2510
15	54	856	1090	1210	1340	1430	1500
30	54	689	863	956	1060	1120	1180
60	54	572	702	765	826	862	891
90	54	504	613	666	717	747	771

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1934-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1400	2010	2950	3640	4580	5340	6130

Systematic n = 54 historical n = 0
Weighted skew = 0.195

UMATILLA RIVER BASIN

14020300 MEACHAM CREEK AT GIBBON, OR

LOCATION.--Lat 45°41'20", long 118°21'20", in SE 1/4 SE 1/4 sec.31, T.3. N., R.36 E., Umatilla County, Hydrologic Unit 17070103, on left bank 250 ft downstream from Union Pacific railroad bridge, 0.9 mi southeast of Gibbon, and at mile 1.4.

DRAINAGE AREA.--176 mi².

PERIOD OF RECORD.--August 1975 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,803.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years, 205 ft³/s, 15.82 in/yr, 148,500 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft³/s Feb. 20, 1982, gage height, 6.60 ft, from floodmark, from rating curve extended above 2,600 ft³/s; minimum discharge, 6.6 ft³/s Aug. 29, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1975, reached a stage of 7.21 ft, from floodmark, discharge, about 8,200 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	9.1	8.0	7.5	--	--	--
3	11	9.3	8.2	7.7	--	--	--
7	11	9.5	8.5	8.1	--	--	--
14	11	10	8.9	8.3	--	--	--
30	11	11	9.6	8.8	--	--	--
60	11	12	11	10	--	--	--
90	11	14	12	12	--	--	--
120	11	15	14	13	--	--	--
183	11	30	22	19	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	1900	2710	3240	--	--	--
3	12	1610	2280	2730	--	--	--
7	12	1250	1760	2110	--	--	--
15	12	1030	1330	1490	--	--	--
30	12	787	1010	1120	--	--	--
60	12	634	788	852	--	--	--
90	12	548	679	730	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1976-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1610	2630	4220	5370	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = -0.114

UMATILLA RIVER BASIN

14021000 UMATILLA RIVER AT PENDLETON, OR

LOCATION.--Lat 45°40'20", long 118°47'30", in NW 1/4 NE 1/4 sec.10, T.2 N., R.32 E., Umatilla County, Hydrologic Unit 17070103, on wingwall 0.3 mi downstream from Main Street bridge at Pendleton, 1.5 mi downstream from Wildhorse Creek, 2.8 mi upstream from McKay Creek, and at mile 55.2.

DRAINAGE AREA.--637 mi².

PERIOD OF RECORD.--February 1891 to July 1892, May 1903 to June 1905 (gage heights and discharge measurements only June to December 1904), October 1934 to 1987. Monthly discharge only February 1891 to July 1892, published in WSP 1318.

REVISED RECORDS.--WSP 1398: 1904, 1937.

GAGE.--Water-stage recorder. Datum of gage is 1,054.3 ft above National Geodetic Vertical Datum of 1929 (levels by Oregon Department of Transportation). Apr. 24 to Aug. 26, 1959, nonrecording gage and Aug. 27, 1959, to Feb. 4, 1965, water-stage recorder at 8th Street Bridge 0.7 mi upstream at datum of 1,067.01 ft above National Geodetic Vertical Datum of 1929. Feb. 5 to Nov. 18, 1965, nonrecording gage at Main Street Bridge 1,600 ft upstream at different datum. Nov. 19, 1965, to Sept. 30, 1969, water-stage recorder at 8th Street Bridge 0.7 mi upstream at datum of 1,067.60 ft above National Geodetic Vertical Datum of 1929 Nov. 19, 1965, to Mar. 28, 1967, and at datum of 1,064.02 ft above National Geodetic Vertical Datum of 1929 Mar. 29, 1967, to Sept. 30, 1969. See WSP 1738 for history of changes prior to Apr. 24, 1959.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--53 years (water years 1935-87), 505 ft³/s, 365,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft³/s Feb. 23, 1986, gage height, 10.16 ft, datum then in use; minimum discharge, 10 ft³/s July 13-16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s Dec. 14, 1882 (date and discharge from data furnished by Corps of Engineers). Flood of May 30, 31, 1906, reached a stage of 11.0 ft, 1934-58 site and datum, but before channel was improved, discharge, 15,500 ft³/s, estimated by Corps of Engineers.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	52	28	21	18	15	13	11
3	52	30	23	19	16	13	12
7	52	31	24	21	18	15	13
14	52	32	25	22	19	17	15
30	52	34	27	24	21	19	17
60	52	39	31	27	24	21	18
90	52	44	35	31	28	24	22
120	52	52	41	36	33	29	27
183	52	98	68	56	48	40	36

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1935-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	53	4300	6600	8360	10900	12900	15200
3	53	3460	5060	6240	7870	9190	10600
7	53	2640	3730	4490	5520	6320	7160
15	53	2110	2830	3260	3750	4090	4410
30	53	1710	2210	2480	2770	2950	3110
60	53	1400	1780	1970	2160	2270	2350
90	53	1220	1540	1700	1860	1950	2030

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1883-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3430	5450	8800	11400	15000	18100	21300	

Systematic n = 54 historical n = 106
Weighted skew = 0.122

UMATILLA RIVER BASIN

14022000 UMATILLA RIVER ABOVE MCKAY CREEK, NEAR PENDLETON, OR

LOCATION.--Lat 45°40'20", long 118°50'00", in NE 1/4 sec.8, T.2 N., R.32 E., Umatilla County, Hydrologic Unit 17070103, 0.2 mi upstream from McKay Creek and 2 mi west of Pendleton.

DRAINAGE AREA.--700 mi², approximately.

PERIOD OF RECORD.--January 1923 to September 1934.

GAGE.--Water-stage recorder. Datum of gage is 997.68 ft above National Geodetic Vertical Datum of 1929. May 8 to Oct. 12, 1921, staff gage, and Oct. 13, 1921, to Mar. 3, 1923, water-stage recorder, 200 ft downstream at different datum. Mar. 6, 1923, to Sept. 30, 1930, at about described datum, and Oct. 1, 1930, to Mar. 31, 1931, at datum about 2.0 ft higher.

REMARKS.--Many diversions for irrigation upstream from station. Slight regulation caused by mills upstream.

AVERAGE DISCHARGE.--11 years (water years 1924-34), 451 ft³/s.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s (estimated), Apr. 1, 1931; minimum, 7 ft³/s Aug. 14, 1924, gage height, 1.87 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1934

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	18	15	13	--	--	--
3	10	19	16	14	--	--	--
7	10	20	17	15	--	--	--
14	10	22	18	16	--	--	--
30	10	24	20	17	--	--	--
60	10	28	23	20	--	--	--
90	10	33	27	25	--	--	--
120	10	38	33	32	--	--	--
183	10	66	50	46	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1924-1934

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	3640	5110	6440	--	--	--
3	11	3110	4230	5210	--	--	--
7	11	2590	3360	3890	--	--	--
15	11	1970	2560	2960	--	--	--
30	11	1470	1930	2290	--	--	--
60	11	1200	1560	1850	--	--	--
90	11	1080	1370	1620	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1934

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
3500	5350	8130	10100	--	--	--	

Systematic n = 11 historical n = 0

Generalized 17b skew = -0.059

UMATILLA RIVER BASIN

14022200 NORTH FORK MCKAY CREEK NEAR PILOT ROCK, OR

LOCATION.--Lat $45^{\circ}30'24''$, long $118^{\circ}36'57''$, in NE 1/4 SE 1/4 sec.1, T.1 S., R.33 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on left bank 10 mi northeast of Pilot Rock and at mile 0.5.

DRAINAGE AREA.--48.6 mi².

PERIOD OF RECORD.--May 1973 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,870 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 44.8 ft³/s, 32,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft³/s Jan. 25, 1975, gage height, 8.48 ft, from floodmark, from rating curve extended above 150 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 0.22 ft³/s June 26, 1985 (result of temporary construction upstream).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	0.7	0.6	0.5	--	--	--
3	13	0.7	0.6	0.5	--	--	--
7	13	0.7	0.6	0.6	--	--	--
14	13	0.8	0.7	0.6	--	--	--
30	13	0.9	0.7	0.7	--	--	--
60	13	1.0	0.9	0.8	--	--	--
90	13	1.2	1.1	1.0	--	--	--
120	13	1.6	1.3	1.2	--	--	--
183	13	3.9	2.5	2.1	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	469	733	898	1090	--	--
3	14	381	530	608	687	--	--
7	14	287	383	429	470	--	--
15	14	225	290	316	336	--	--
30	14	172	225	249	270	--	--
60	14	146	180	193	203	--	--
90	14	124	155	166	173	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1974-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
451	719	1130	1430	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = -0.077

UMATILLA RIVER BASIN

14022500 MCKAY CREEK NEAR PILOT ROCK, OR

LOCATION.--Lat 45°32'57", long 118°46'24", in NW 1/4 SE 1/4 sec.23, T.1 N., R.32 E., Umatilla County, Hydrologic Unit 17070103, on left bank 500 ft upstream from county road bridge, 5.5 mi northeast of Pilot Rock, and at mile 8.2.

DRAINAGE AREA.--180 mi².

PERIOD OF RECORD.--May to August 1921, October 1926 to June 1928, December 1928 to July 1929, October 1929 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1398: 1928-29, 1933, 1940.

GAGE.--Water-stage recorder. Datum of gage is 1,343.60 ft above National Geodetic Vertical Datum of 1929. See WSP 1318 or 1738 for history of changes prior to Apr. 9, 1941. Apr. 9, 1941, to July 24, 1963, at site 1,000 ft downstream at datum 7.92 ft lower.

REMARKS.--No regulation. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--59 years (water years 1927, 1930-87), 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft³/s Jan. 30, 1965, gage height, 8.40 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	58	0.1	0.0	0.0	0.0	0.0	0.0
3	58	0.1	0.0	0.0	0.0	0.0	0.0
7	58	0.1	0.0	0.0	0.0	0.0	0.0
14	58	0.2	0.0	0.0	0.0	0.0	0.0
30	58	0.2	0.0	0.0	0.0	0.0	0.0
60	58	0.5	0.0	0.0	0.0	0.0	0.0
90	58	0.9	0.1	0.0	0.0	0.0	0.0
120	58	1.6	0.3	0.1	0.0	0.0	0.0
183	58	7.6	2.8	1.5	0.9	0.5	0.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	59	1040	1720	2260	3020	3670	4360
3	59	839	1340	1740	2320	2810	3360
7	59	645	974	1210	1530	1790	2050
15	59	492	714	861	1040	1180	1320
30	59	392	548	640	744	814	878
60	59	321	438	499	561	599	630
90	59	273	369	418	468	498	523

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
786	1370	2430	3300	4590	5700	6940	

Systematic n = 61 historical n = 0
Weighted skew = 0.101

UMATILLA RIVER BASIN

14023500 MCKAY CREEK NEAR PENDLETON, OR

LOCATION.--Lat 45°36'34", long 118°47'55", in SE 1/4 NW 1/4 sec.34, T.2 N., R.32 E., Umatilla County, Hydrologic Unit 17070103, on right bank 35 ft upstream from diversion dam, 0.2 mi downstream from McKay Dam, 4.5 mi south of Pendleton, and at mile 4.7.

DRAINAGE AREA.--186 mi².

PERIOD OF RECORD.--November 1918 to May 1919, October 1919 to September 1923, October 1924 to September 1927, November 1927 to September 1943, April 1944 to October 1947 (irrigation seasons only), March 1948 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1154: Drainage area. WSP 1398: 1923.

GAGE.--Water-stage recorder. Concrete control since Mar. 23, 1928. Datum of gage is 1,163.71 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). See WSP 1318 or 1738 for history of changes prior to Nov. 16, 1948.

REMARKS--Flow completely regulated since 1927 by McKay Reservoir (station 14023000). Many diversions for irrigation upstream from station. From 1932 to 1970, records excluded flow in Elder ditch, which diverts water between the gage and the control. Since 1971, records include flow in Elder ditch. During the irrigation season, from 1953 to 1982, Elder ditch diverted a maximum of 1.5 ft³/s; since 1982, diversion has been less than 1.0 ft³/s.

AVERAGE DISCHARGE.--50 years (water years 1933-43, 1949-87), 98.5 ft³/s, 71,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 3,250 ft³/s Feb. 10, 1921, gage height, 4.4 ft, site and datum then in use, from rating curve extended above 1,200 ft³/s; no flow at times each year.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1987

[Low-flow statistics not computed due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
		54	432	656	863	1210	1550	1960
1	54	421	624	805	1100	1380	1710	
3	54	391	563	718	972	1210	1500	
7	54	356	485	595	768	923	1110	
15	54	330	423	491	585	661	743	
30	54	304	360	391	425	447	467	
60	54	266	314	339	364	379	392	
90	54							

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

UMATILLA RIVER BASIN

14025000 BIRCH CREEK AT RIETH, OR

LOCATION.--Lat $45^{\circ}39'10''$, long $118^{\circ}52'45''$, in SE 1/4 sec.13, T.2 N., R.31 E., Umatilla County, Hydrologic Unit 17070103, on right bank 600 ft downstream from road bridge, 0.3 mi southwest of Rieth, and at mile 0.2.

DRAINAGE AREA.--291 mi².

PERIOD OF RECORD.--May to August 1921, March to July 1922, April to September 1923, April to September 1927, January to June 1928, November 1928 to August 1929, October 1929 to September 1976. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 951.04 ft above National Geodetic Vertical Datum of 1929. See WSP 1738 for history of changes prior to July 24, 1957.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--47 years (water years 1930-76), 48.9 ft³/s, 35,430 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft³/s Jan. 30, 1965, gage height, 6.40 ft; no flow at times.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	42	0.0	0.0	0.0	0.0	0.0	0.0
3	42	0.0	0.0	0.0	0.0	0.0	0.0
7	42	0.0	0.0	0.0	0.0	0.0	0.0
14	42	0.0	0.0	0.0	0.0	0.0	0.0
30	42	0.0	0.0	0.0	0.0	0.0	0.0
60	42	0.1	0.0	0.0	0.0	0.0	0.0
90	42	0.1	0.0	0.0	0.0	0.0	0.0
120	42	0.3	0.0	0.0	0.0	0.0	0.0
183	42	0.3	0.0	0.0	0.0	0.0	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	45	412	692	906	1210	1450	1710
3	45	351	559	710	914	1070	1240
7	45	294	457	570	719	832	948
15	45	238	357	436	535	608	680
30	45	192	281	334	397	439	478
60	45	152	222	262	307	337	364
90	45	128	188	223	261	287	309

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
298	546	992	1350	1870	2300	2770	

Systematic n = 47 historical n = 0
Weighted skew = -0.062

UMATILLA RIVER BASIN

14026000 UMATILLA RIVER AT YOAKUM, OR

LOCATION.--Lat $45^{\circ}40'38''$, long $119^{\circ}02'09''$, in SW 1/4 SW 1/4 sec.2, T.2 N., R.30 E., Umatilla County, Hydrologic Unit 17070103, at left bank on downstream side of highway bridge, 0.5 mi northeast of Yoakum, 2.5 mi downstream from abandoned Furnish Reservoir, 12.0 mi downstream from Birch Creek, and at mile 37.7.

DRAINAGE AREA.--1,280 mi², approximately.

PERIOD OF RECORD.--May 1903 to 1987. Records published as "above Furnish Reservoir, near Yoakum" October 1916 to September 1934 are equivalent.

REVISED RECORDS.--WSP 794: 1906(M). WSP 1398: 1904-6, 1908-9, 1922-23, 1926, 1936.

GAGE.--Water-stage recorder. Datum of gage is 768.21 ft above National Geodetic Vertical Datum of 1929. See WSP 1318 or 1738 for history of changes prior to Oct. 21, 1948.

REMARKS.--Slight regulation by Furnish Reservoir, capacity 3,900 acre-ft, beginning in 1910 and continuing until 1934 when reservoir filled with silt. Flow regulated to some extent since 1927 by McKay Reservoir (station 14023000). Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--84 years, 680 ft³/s, 492,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s May 30, 1906, gage height, about 15.0 ft, site and datum then in use, from floodmarks, from rating curve extended about 6,600 ft³/s; minimum discharge, 12 ft³/s Aug. 10-12, 1908, Aug. 4, 1910.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1905-1926

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	25	18	15	13	11	--
3	22	26	19	16	14	12	--
7	22	27	20	17	14	12	--
14	22	28	21	18	16	13	--
30	22	31	23	20	18	16	--
60	22	37	29	25	23	21	--
90	22	44	35	31	29	27	--
120	22	54	41	37	34	31	--
183	22	102	72	61	53	45	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1904-1926

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	5790	8990	11400	14700	17400	--
3	23	4950	7260	8830	10900	12400	--
7	23	4160	5670	6570	7600	8300	--
15	23	3340	4480	5100	5770	6190	--
30	23	2690	3710	4350	5110	5640	--
60	23	2120	2970	3530	4230	4740	--
90	23	1840	2500	2920	3440	3820	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1905-1926

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4150	6470	10100	12800	16500	19500	--	

Systematic n = 22 historical n = 0
Weighted skew = 0.038

UMATILLA RIVER BASIN

14026000 UMATILLA RIVER AT YOAKUM, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	59	49	34	28	23	19	16
3	59	50	36	29	24	19	16
7	59	53	38	30	25	20	17
14	59	57	40	32	27	21	18
30	59	65	46	38	32	26	22
60	59	87	60	49	41	34	30
90	59	122	84	68	57	46	39
120	59	162	113	91	75	59	50
183	59	228	173	147	127	108	96

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	60	4800	7180	8970	11500	13500	15700
3	60	3940	5710	7020	8850	10300	11900
7	60	3120	4440	5370	6610	7580	8590
15	60	2570	3510	4080	4750	5220	5670
30	60	2060	2800	3250	3770	4130	4460
60	60	1700	2280	2610	2960	3190	3400
90	60	1480	1950	2210	2480	2660	2810

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

UMATILLA RIVER BASIN

14032000 BUTTER CREEK NEAR PINE CITY, OR

LOCATION.--Lat $45^{\circ}32'48''$, long $119^{\circ}18'14''$, in SE 1/4 SW 1/4 sec.22, T.1 N., R.28 E., Morrow County, Hydrologic Unit 17070103, on right bank 0.3 mi downstream from Mattlock Canyon, 6.0 mi southeast of Pine City, 15 mi southwest of Echo, and at mile 28.4.

DRAINAGE AREA.--291 mi².

PERIOD OF RECORD.--April to June 1928, November 1928 to June 1929, October 1929 to September 1930, January 1931 to September 1932, February to June 1933, October 1933 to September 1941, January to June 1942, October 1942 to September 1987. Prior to October 1945, monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1218: 1950(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft, by barometer. Prior to Oct. 1, 1944, at datum 1.1 ft higher and Oct. 1, 1944, to Sept. 6, 1949, at datum 1.0 ft higher.

REMARKS.--No regulation. Several small diversions for irrigation upstream from station. Water is diverted into headwaters of Butter Creek from Fivemile Creek, a tributary of Camas Creek in John Day River basin, for irrigation downstream from station.

AVERAGE DISCHARGE.--55 years (water years 1930, 1932, 1934-41, 1943-87), 28.6 ft³/s, 20,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,800 ft³/s Feb. 21, 1949, gage height, 12.4 ft, present datum, from floodmark, from rating curve extended above 440 ft³/s on basis of computation of peak flow over diversion dam; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1987

[short-duration statistics uncertain due to excessive zero events and diversion]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	52	0.2	0.0	0.0	0.0	0.0	0.0
3	52	0.2	0.0	0.0	0.0	0.0	0.0
7	52	0.2	0.0	0.0	0.0	0.0	0.0
14	52	0.2	0.0	0.0	0.0	0.0	0.0
30	52	0.3	0.0	0.0	0.0	0.0	0.0
60	52	0.4	0.0	0.0	0.0	0.0	0.0
90	52	0.6	0.0	0.0	0.0	0.0	0.0
120	52	1.2	0.1	0.0	0.0	0.0	0.0
183	52	3.8	0.7	0.0	0.0	0.0	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	55	223	422	620	974	1330	1800
3	55	183	336	479	718	947	1230
7	55	149	262	354	491	609	741
15	55	122	203	262	340	401	464
30	55	100	158	196	241	273	303
60	55	83	129	157	188	209	228
90	55	71	111	135	163	182	199

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
186	334	659	977	1530	2080	2770

Systematic n = 57 historical n = 0
Weighted skew = 0.515

UMATILLA RIVER BASIN

14033500 UMATILLA RIVER NEAR UMATILLA, OR

LOCATION.--Lat $45^{\circ}54'11''$, long $119^{\circ}19'33''$, in SW 1/4 NW 1/4 sec.21, T.5 N., R.28 E., Umatilla County, Hydrologic Unit 17070103, on left bank 1.6 mi downstream from West Division main canal of Umatilla project, 1.2 mi southeast of Umatilla, and at mile 2.1.

DRAINAGE AREA.--2,290 mi², approximately.

PERIOD OF RECORD.--October 1903 to 1987.

REVISED RECORDS.--WSP 794: Drainage area. WSP 1398: 1909, 1911, 1914, 1928, 1935.

GAGE.--Water-stage recorder. Datum of gage is 330.47 ft above National Geodetic Vertical Datum of 1929. Oct. 21, 1903, to Jan. 25, 1931, nonrecording gage.

REMARKS.--Some regulation since 1927 by McKay Reservoir (station 14023000). Many diversions upstream from station for irrigation of lands upstream and downstream from station; Brownell Canal diverts downstream from station. Diversions since 1908 to Cold Springs Reservoir, an off-channel reservoir, capacity, 52,380 acre-ft.

AVERAGE DISCHARGE.--60 years (water years 1928-87), 463 ft³/s, 335,400 acre-ft/yr. Water years prior to 1928 not included in computation of average discharge owing to increased regulation and diversion since 1927.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,800 ft³/s Jan. 30, 1965, gage height, 10.75 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	1.5	0.7	0.5	0.3	0.2	0.2
3	26	1.7	0.8	0.6	0.4	0.3	0.2
7	26	2.0	1.0	0.7	0.5	0.3	0.2
14	26	2.7	1.3	0.8	0.5	0.3	0.2
30	26	3.8	1.7	1.1	0.8	0.5	0.4
60	26	6.3	2.8	1.7	1.1	0.6	0.4
90	26	9.7	4.2	2.5	1.5	0.8	0.6
120	26	15	6.5	3.9	2.4	1.4	0.9
183	26	47	17	8.7	4.6	2.1	1.2

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	60	4300	6790	8730	11500	13900	16500
3	60	3610	5530	6990	9050	10700	12600
7	60	2860	4290	5300	6640	7670	8730
15	60	2250	3300	3970	4750	5310	5830
30	60	1780	2560	3010	3480	3790	4060
60	60	1390	2000	2340	2700	2930	3120
90	60	1180	1690	1970	2250	2430	2580

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
3240	5060	8160	10600	14100	17100	20400	

Systematic n = 59 historical n = 0
Weighted skew = 0.234

WILLOW CREEK BASIN

14034500 WILLOW CREEK AT HEPPNER, OR

LOCATION.--Lat 45°21'02", long 119°32'56", in SE 1/4 NW 1/4 sec.35, T.2 S., R.26 E., Morrow County, Hydrologic Unit 17070104, on right bank at Heppner, 100 ft upstream from Court Street bridge, 800 ft southeast of Morrow County courthouse, 0.2 mi downstream from Willow Creek Dam and at mile 52.2.

DRAINAGE AREA.--96.8 mi².

PERIOD OF RECORD.--May 1951 to 1987.

REVISED RECORDS.--WDR OR-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since September 1985. Datum of gage is 1,952.73 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Willow Creek Lake, 0.2 mi upstream, since Feb. 16, 1983. Many diversions for irrigation upstream from station. Part of flow of Ditch Creek (John Day River basin) is diverted to Willow Creek upstream from station.

AVERAGE DISCHARGE.--31 years (water years 1951-82), 19.1 ft³/s, 13,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 812 ft³/s May 10, 1957, gage height, 6.15 ft, from rating curve extended above 230 ft³/s; maximum gage height, 6.46 ft May 25, 1971, backwater from Shobe Canyon; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 36,000 ft³/s June 14, 1903, result of slope-area measurement (see WSP 96). Discharge for flood of Feb. 22, 1949, was 1,700 ft³/s, result of slope-area measurement.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1953-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	0.0	0.0	0.0	0.0	0.0	0.0
3	30	0.0	0.0	0.0	0.0	0.0	0.0
7	30	0.1	0.0	0.0	0.0	0.0	0.0
14	30	0.1	0.0	0.0	0.0	0.0	0.0
30	30	0.1	0.0	0.0	0.0	0.0	0.0
60	30	0.2	0.0	0.0	0.0	0.0	0.0
90	30	0.3	0.1	0.1	0.0	0.0	0.0
120	30	0.7	0.3	0.2	0.1	0.0	0.0
183	30	2.3	1.2	0.8	0.6	0.4	0.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1952-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	151	268	344	434	495	551
3	31	132	229	290	361	407	449
7	31	106	179	222	271	303	330
15	31	82	134	165	199	220	239
30	31	66	103	123	144	156	166
60	31	54	84	99	114	122	128
90	31	47	72	84	96	102	107

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1903-1982

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
78	180	497	915	1860	3060	4890	

Systematic n = 32 historical n = 80
Weighted skew = 0.705

WILLOW CREEK BASIN

14034800 RHEA CREEK NEAR HEPPNER, OR

LOCATION.--Lat 45°15'46", long 119°36'51", in NW 1/4 SW 1/4 sec.32, T.3 S., R.26 E., Morrow County, Hydrologic Unit 17070104, on left bank 150 ft downstream from road bridge, 0.8 mi downstream from Sanford Canyon, 8 mi southwest of Heppner, and at mile 25.6. Prior to Nov. 4, at site 1,000 ft downstream.

DRAINAGE AREA.--120 mi², approximately.

PERIOD OF RECORD.--August 1960 to 1987.

REVISED RECORD.--WDR OR-84-1: 1983.

GAGE.--Water-stage recorder. Elevation of gage is 2,320 ft, from topographic map. Prior to May 28, 1976, at site 0.6 mi downstream at different datum and May 28, 1976 to Nov. 3, 1982, at site 1,000 ft downstream at datum 10.5 ft lower.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--27 years, 23.4 ft³/s, 16,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,280 ft³/s June 10, 1969, gage height, 7.05 ft, site and datum then in use, from rating curve extended above 130 ft³/s on basis of slope-area measurement at gage height 6.72 ft; maximum gage height, 7.41 ft Dec. 22, 1964, site and datum then in use; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	0.0	0.0	0.0	0.0	0.0	0.0
3	26	0.0	0.0	0.0	0.0	0.0	0.0
7	26	0.1	0.0	0.0	0.0	0.0	0.0
14	26	0.2	0.0	0.0	0.0	0.0	0.0
30	26	0.5	0.1	0.0	0.0	0.0	0.0
60	26	0.9	0.2	0.1	0.0	0.0	0.0
90	26	1.2	0.4	0.2	0.1	0.0	0.0
120	26	1.7	0.7	0.5	0.3	0.2	0.2
183	26	2.9	1.6	1.2	0.9	0.7	0.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	233	435	566	720	823	915
3	27	194	348	446	557	629	694
7	27	147	265	341	432	493	549
15	27	110	193	246	306	346	382
30	27	83	144	180	221	246	268
60	27	64	110	138	170	191	210
90	27	55	94	117	142	157	170

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
123	291	639	937	1380	1750	2150	

Systematic n = 26 historical n = 0
Weighted skew = -0.321

WILLOW CREEK BASIN

14036000 WILLOW CREEK NEAR ARLINGTON, OR

LOCATION.--Lat 45°45'12", long 120°00'35", in NE 1/4 SW 1/4 sec.12, T.3 N., R.22 E., Gilliam County, Hydrologic Unit 17070104, on right bank at bridge on abandoned highway, 3.8 mi downstream from Eightmile Canyon, 10 mi east of Arlington, and at mile 3.7.

DRAINAGE AREA.--850 mi², approximately.

PERIOD OF RECORD.--March to July 1906, August 1960 to September 1979. Records for March to August 1905 at site just upstream from Eightmile Canyon not equivalent owing to diversions and inflow.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 291.26 ft above National Geodetic Vertical Datum of 1929. Mar. 1 to July 21, 1906, nonrecording gage at site 2.6 mi upstream at different datum. Aug. 24, 1960 to July 1, 1964, water-stage recorder at site 430 ft downstream at same datum.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--19 years, 31.3 ft³/s, 22,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s probably occurred Jan. 14, 1974, gage height, 11.18 ft, from floodmark, from rating curve extended above 1,900 ft³/s on basis of slope-area measurement at gage height 11.05 ft; maximum gage height, 13.50 ft Feb. 7, 1979, from floodmarks; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	18	0.0	0.0	0.0	0.0	--	--	
3	18	0.0	0.0	0.0	0.0	--	--	
7	18	0.0	0.0	0.0	0.0	--	--	
14	18	0.0	0.0	0.0	0.0	--	--	
30	18	0.0	0.0	0.0	0.0	--	--	
60	18	0.1	0.0	0.0	0.0	--	--	
90	18	0.2	0.0	0.0	0.0	--	--	
120	18	0.3	0.1	0.0	0.0	--	--	
183	18	0.8	0.3	0.2	0.0	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	19	357	1610	3160	5970	--	--	
3	19	262	995	1750	2910	--	--	
7	19	194	663	1090	1680	--	--	
15	19	148	460	702	990	--	--	
30	19	107	303	444	600	--	--	
60	19	78	218	319	432	--	--	
90	19	61	172	256	353	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1979

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
201	948	4460	10000	23800	--	--

Systematic n = 19 historical n = 0
Generalized 17b skew = 0.000

JOHN DAY RIVER BASIN

14037500 STRAWBERRY CREEK ABOVE SLIDE CREEK, NEAR PRAIRIE CITY, OR

LOCATION.--Lat $44^{\circ}20'30''$, long $118^{\circ}39'20''$, in SE 1/4 NW 1/4 sec.20, T.14 S., R.34 E., Grant County, Hydrologic Unit 17070201, on left bank 100 ft upstream from Slide Creek, 8.5 mi south of Prairie City, and at mile 9.0.

DRAINAGE AREA.--7.00 mi².

PERIOD OF RECORD.--October 1930 to 1987. Prior to October 1944, published as "above South Fork, near Prairie City."

REVISED RECORDS.--WSP 1488: 1932-33. WSP 1738: Drainage area.

GAGE.--Water-stage recorder and log control. Datum of gage is 4,909.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow affected by natural storage in Strawberry Lake. No diversion upstream from station.

AVERAGE DISCHARGE.--57 years, 13.0 ft³/s, 25.22 in/yr, 9,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 354 ft³/s May 31, 1983, gage height, 2.45 ft, from rating curve extended above 190 ft³/s; maximum gage height, 3.23 ft May 24, 1956 (backwater from logs); minimum discharge, 1.0 ft³/s Mar. 20, 1955.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2. 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	56	2.0	1.6	1.5	1.3	1.2	1.1
3	56	2.0	1.6	1.5	1.3	1.2	1.1
7	56	2.1	1.7	1.5	1.4	1.2	1.1
14	56	2.2	1.7	1.6	1.4	1.3	1.2
30	56	2.3	1.9	1.7	1.5	1.4	1.3
60	56	2.6	2.0	1.8	1.6	1.5	1.4
90	56	2.7	2.2	1.9	1.8	1.6	1.5
120	56	3.0	2.3	2.0	1.9	1.7	1.6
183	56	3.3	2.5	2.2	2.0	1.8	1.7

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	57	85	120	142	171	192	213
3	57	82	113	133	158	175	192
7	57	77	104	121	142	156	171
15	57	69	92	107	124	136	147
30	57	60	79	90	102	110	117
60	57	48	62	70	77	82	87
90	57	38	49	55	60	64	67

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1931-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
62	90	135	169	215	253	293

Systematic n = 57 historical n = 0
Weighted skew = 0.206

JOHN DAY RIVER BASIN

14038500 JOHN DAY RIVER AT PRAIRIE CITY, OR

LOCATION.--Lat 44°27'15", long 118°43'00", in SE 1/4 NE 1/4 sec.10, T.13 S., R.33 E., Grant County, Hydrologic Unit 17070201, on right bank 600 ft upstream from outlet of Prairie power canal, 0.3 mi downstream from Dixie Creek, 0.8 mi southwest of Prairie City, and at mile 262.0.

DRAINAGE AREA.--231 mi².

PERIOD OF RECORD.--October 1916 to September 1917 (gage heights only), March 1925 to September 1968. Monthly discharge only March 1925 published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 3,494.59 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1926, staff gage at site 600 ft downstream, just below outlet of Prairie power canal, at different datum. Mar. 30, 1926, to Aug. 23, 1943, staff gage at various sites and datums just above outlet of Prairie power canal. Aug. 24, 1943, to Sept. 22, 1965, water-stage recorder at datum 2.07 ft higher. Sept. 23, 1965, to July 27, 1966, water-stage recorder at present site and datum.

REMARKS.--No regulation. Several diversions upstream including Prairie power canal (not used for power since February 1952) which diverts upstream from station in SE 1/4 sec.7, T.13 S., R.34 E., for irrigation upstream and downstream from station.

AVERAGE DISCHARGE.--27 years (water years 1926-52), 113 ft³/s, including flow of Prairie power canal, 81,810 acre-ft/yr; 15 years (water years 1953-68), 114 ft³/s, river only, 82,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,400 ft³/s Dec. 22, 1964, gage height, 8.07 ft, present datum, from rating curve extended above 1,400 ft³/s; minimum, 2 ft³/s Dec. 8, 21, 22, 1932, Aug. 10, 1934.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	8.3	5.1	4.1	3.4	2.9	--
3	23	9.0	5.5	4.4	3.7	3.1	--
7	23	9.6	5.8	4.6	3.9	3.3	--
14	23	11	6.4	5.1	4.3	3.5	--
30	23	13	7.7	6.1	5.1	4.2	--
60	23	17	10	8.2	6.9	5.7	--
90	23	19	12	9.5	7.9	6.6	--
120	23	23	14	10	8.5	6.7	--
183	23	32	19	15	12	8.8	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	452	718	913	1250	1520	--
3	24	365	586	770	1050	1290	--
7	24	318	500	645	860	1040	--
15	24	281	425	531	676	792	--
30	24	246	359	435	529	599	--
60	24	212	303	362	434	487	--
90	24	184	261	312	374	420	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1926-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
310	528	924	1250	1730	2150	2620	

Systematic n = 26 historical n = 0
Weighted skew = 0.151

JOHN DAY RIVER BASIN

14038500 JOHN DAY RIVER AT PRAIRIE CITY, OR--Continued

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1954-1968

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
		50%	20%	10%	5%	2%	1%	
1	15	15	10	8.7	7.4	--	--	
3	15	16	11	9.4	8.1	--	--	
7	15	17	13	11	10	--	--	
14	15	20	15	13	12	--	--	
30	15	26	20	17	16	--	--	
60	15	32	27	25	23	--	--	
90	15	39	32	29	27	--	--	
120	15	48	40	36	33	--	--	
183	15	59	51	47	44	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1953-1968

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
		50%	20%	10%	4%	2%	1%	
1	16	434	683	908	1280	--	--	
3	16	393	596	774	1060	--	--	
7	16	366	520	634	794	--	--	
15	16	310	425	506	613	--	--	
30	16	264	361	424	503	--	--	
60	16	226	310	364	432	--	--	
90	16	205	277	324	381	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

JOHN DAY RIVER BASIN

14030530 JOHN DAY RIVER NEAR JOHN DAY, OR

LOCATION.--Lat 44°25'07", long 118°54'19", in SW 1/4 SE 1/4 sec.19, T.13 S., R.32 E., Grant County, Hydrologic Unit 17070201, on left bank 1,200 ft downstream from Dog Creek, 2.5 mi east of John Day, and at mile 250.8. DRAINAGE AREA.--386 mi².

PERIOD OF RECORD.--October 1968 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 3,130.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation upstream. Many diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--19 years, 220 ft³/s, 159,400 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,830 ft³/s June 9, 1969, gage height, 10.80 ft, from floodmark; minimum discharge, 3.5 ft³/s Aug. 26-28, 1969.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	18	15	7.6	5.4	4.1	--	--	
3	18	16	8.3	6.0	4.6	--	--	
7	18	16	9.0	6.6	5.1	--	--	
14	18	19	10	7.6	5.8	--	--	
30	18	28	16	11	8.8	--	--	
60	18	42	28	23	19	--	--	
90	18	56	38	31	26	--	--	
120	18	67	50	43	39	--	--	
183	18	90	72	65	61	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	19	1240	1840	2130	2380	--	--	
3	19	1030	1490	1700	1870	--	--	
7	19	828	1180	1330	1450	--	--	
15	19	683	927	1020	1090	--	--	
30	19	589	777	844	891	--	--	
60	19	494	647	702	741	--	--	
90	19	439	585	644	690	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1969-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
972	1640	2750	3610	4820	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = -0.016

JOHN DAY RIVER BASIN

14040500 JOHN DAY RIVER AT PICTURE GORGE, NEAR DAYVILLE, OR

LOCATION.--Lat 44°31'15", long 119°37'30", in SW 1/4 sec.17, T.12 S., R.26 E., Grant County, Hydrologic Unit 17070201, on right bank 0.7 mi upstream from Rock Creek, 5.5 mi northwest of Dayville, and at mile 205.1.

DRAINAGE AREA.--1,680 mi², approximately.

PERIOD OF RECORD.--April 1926 to 1987. Monthly discharge only April 1926, published in WSP 1318.

REVISED RECORDS.--WSP 1218: 1950. WSP 1348: Drainage area. WSP 1448: 1926, 1928, 1932(M), 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,229.84 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 11, 1926, nonrecording gage and Oct. 11, 1926, to Sept. 30, 1930, water-stage recorder at same site at datum 2.50 ft higher. Oct. 1, 1930, to Aug. 28, 1970, at datum 2.00 ft higher.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--61 years, 503 ft³/s, 364,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s Dec. 22, 1964, gage height, 14.97 ft; minimum discharge, 1.0 ft³/s for several days in August and September 1930, Aug. 8, 9, 1936, Sept. 9, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	60	15	5.0	2.7	1.6	0.9	0.6
3	60	15	5.3	2.9	1.7	0.9	0.6
7	60	17	5.9	3.3	1.9	1.1	0.7
14	60	18	6.5	3.6	2.2	1.2	0.8
30	60	22	7.8	4.3	2.6	1.4	0.9
60	60	31	11	5.9	3.4	1.8	1.1
90	60	47	18	9.6	5.6	2.9	1.8
120	60	77	35	21	13	7.5	4.9
183	60	136	83	62	48	35	28

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	61	2500	4030	5080	6430	7440	8440
3	61	2310	3670	4540	5570	6290	6960
7	61	2060	3220	3920	4710	5240	5710
15	61	1790	2730	3250	3800	4150	4440
30	61	1520	2270	2690	3130	3410	3640
60	61	1270	1900	2250	2640	2880	3090
90	61	1110	1670	1990	2340	2570	2760

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1710	2790	4540	5830	7600	9010	10500	

Systematic n = 60 historical n = 0

Weighted skew = -0.055

JOHN DAY RIVER BASIN

14041500 NORTH FORK JOHN DAY RIVER NEAR DALE, OR

LOCATION.--Lat 44°59'55", long 118°56'25", in SE 1/4 SE 1/4 sec.35, T.6 S., R.31 E., Grant County, Hydrologic Unit 17070202, on right bank 0.2 mi downstream from Desolation Creek and 0.8 mi northeast of Dale.

DRAINAGE AREA.--525 mi².

PERIOD OF RECORD.--October 1929 to September 1958.

GAGE.--Water-stage recorder. Datum of gage is 2,775.63 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Olive Lake (capacity, about 5,500 acre-ft) and Upper Reservoir on Lake Creek (capacity, about 700 acre-ft). Some diurnal fluctuation at low flow caused by logging operations upstream from station. Several small diversions for irrigation and mining upstream from station. Since 1865 water has been diverted upstream from station at times to North Fork Burnt River.

AVERAGE DISCHARGE.--29 years (water years 1929-58), 404 ft³/s, 292,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s May 26, 1948, gage height, 10.48 ft; minimum, 6 ft³/s Nov. 3, 1936, gage height, 1.40 ft, result of freezeup; minimum daily, 10 ft³/s Nov. 11, Nov. 29 to Dec. 1, 1936, Jan. 7, 8, 1937.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	28	33	21	16	13	9.6	7.9
3	28	37	24	18	14	11	8.6
7	28	40	27	22	18	15	13
14	28	42	32	27	24	20	18
30	28	47	35	31	27	24	22
60	28	52	39	34	30	27	25
90	28	58	44	37	33	29	26
120	28	64	48	42	37	32	29
183	28	83	59	50	43	37	33

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29	2850	4090	4840	5720	6330	6890
3	29	2690	3830	4510	5280	5800	6280
7	29	2480	3520	4130	4800	5240	5630
15	29	2190	3110	3640	4230	4620	4970
30	29	1900	2670	3110	3600	3930	4230
60	29	1520	2080	2400	2740	2970	3170
90	29	1200	1630	1880	2160	2340	2500

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1958

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2040	3080	4500	5410	6530	7330	8100	

Systematic n = 29 historical n = 0
Weighted skew = -0.309

JOHN DAY RIVER BASIN

14042000 CAMAS CREEK NEAR LEHMAN, OR

LOCATION.--Lat 45°10'16", long 118°43'53", in SW 1/4 sec.33, T.4 S., R.33 E., Umatilla County, Hydrologic Unit 17070202, on left bank 2.1 mi downstream from Bowman Creek, 3.5 mi northwest of Lehman, and at mile 25.5.

DRAINAGE AREA.--60.7 mi².

PERIOD OF RECORD.--October 1950 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 3,969.53 ft above National Geodetic Vertical Datum of 1929 (levels by State Highway Department).

REMARKS.--No regulation. A few small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--20 years, 43.3 ft³/s, 31,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft³/s Dec. 21, 1955, gage height, 4.56 ft, from rating curve extended above 900 ft³/s; minimum, 0.23 ft³/s Aug. 24, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1952-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2		5		10		20
		50%	20%	10%	5%	2%	1%	
1	19	0.8	0.6	0.5	0.4	--	--	--
3	19	0.9	0.6	0.5	0.4	--	--	--
7	19	0.9	0.6	0.5	0.4	--	--	--
14	19	1.0	0.7	0.6	0.5	--	--	--
30	19	1.1	0.8	0.7	0.6	--	--	--
60	19	1.3	1.0	0.9	0.8	--	--	--
90	19	1.5	1.2	1.1	1.0	--	--	--
120	19	1.9	1.5	1.4	1.3	--	--	--
183	19	4.1	2.7	2.1	1.7	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1951-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2		5		10		25
		50%	20%	10%	5%	2%	1%	
1	20	449	690	891	1200	1470	--	--
3	20	381	549	680	869	1030	--	--
7	20	312	419	488	574	636	--	--
15	20	252	329	372	421	452	--	--
30	20	192	254	290	330	356	--	--
60	20	146	195	224	259	282	--	--
90	20	122	164	190	220	240	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1951-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	5%	2%	1%	
418	634	994	1280	1680	2020	--	

Systematic n = 20 historical n = 0
Weighted skew = 0.279

JOHN DAY RIVER BASIN

14042500 CAMAS CREEK NEAR UKIAH, OR

LOCATION.--Lat 45°09'25", long 118°49'10", in SE 1/4 SE 1/4 sec.3, T.5 S., R.32 E., Umatilla County, Hydrologic Unit 17070202, on right bank 1.2 mi upstream from Cable Creek, 5.8 mi east of Ukiah, and at mile 18.7.

DRAINAGE AREA.--121 mi².

PERIOD OF RECORD.--May 1914 to September 1917, November 1919 to July 1920, November 1920 to June 1924, March 1932 to June 1940 (fragmentary), November 1940 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as "above Cable Creek, near Ukiah" 1914-17, 1919-24.

REVISED RECORDS.--WSP 1448: 1916, 1920, 1922(M), 1924.

GAGE.--Water-stage recorder. Datum of gage is 3,588.61 ft above National Geodetic Vertical Datum of 1929 (levels by State Highway Department). May 1, 1914, to June 30, 1924, nonrecording gage and Mar. 1, 1932, to July 2, 1940, water-stage recorder at site 1.2 mi downstream at different datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--51 years (water years 1915-17, 1922-23, 1942-87), 96.9 ft³/s, 70,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,840 ft³/s Jan. 30, 1965, gage height, 5.21 ft; maximum gage height, 5.92 ft Jan. 24, 1982 (ice jam); minimum discharge recorded, 1.0 ft³/s Aug. 9, 1932, June 24 to July 2, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1916-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	2.9	2.2	1.9	1.7	1.5	1.4
3	51	3.0	2.3	2.0	1.7	1.5	1.4
7	51	3.2	2.4	2.1	1.9	1.6	1.5
14	51	3.4	2.6	2.3	2.1	1.9	1.7
30	51	3.8	2.9	2.6	2.3	2.1	1.9
60	51	4.5	3.4	3.0	2.7	2.4	2.3
90	51	5.2	4.1	3.6	3.4	3.1	2.9
120	51	6.1	4.8	4.3	4.1	3.8	3.7
183	51	12	7.8	6.1	5.0	4.0	3.5

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1915-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	51	834	1210	1490	1880	2200	2540
3	51	721	1020	1230	1520	1740	1980
7	51	612	838	976	1140	1260	1370
15	51	512	686	780	879	941	995
30	51	407	556	642	739	803	862
60	51	322	441	511	591	645	696
90	51	271	368	424	485	525	561

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1915-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
712	1060	1600	1990	2540	2980	3440	

Systematic n = 63 historical n = 0
Weighted skew = 0.150

JOHN DAY RIVER BASIN

14044000 MIDDLE FORK JOHN DAY RIVER AT RITTER, OR

LOCATION.--Lat 44°53'20", long 119°08'25", in SW 1/4 NW 1/4 sec.8, T.8 S., R.30 E., Grant County, Hydrologic Unit 17070203, on left bank 0.2 mi south of Ritter, 0.8 mi downstream from Twelvemile Creek, and at mile 14.9.

DRAINAGE AREA.--515 mi².

PERIOD OF RECORD.--October 1929 to 1987.

REVISED RECORDS.--WSP 739: 1931. WSP 1218: 1950. WSP 1448: 1930-32, 1937, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,544.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--58 years, 256 ft³/s, 185,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,730 ft³/s Jan. 30, 1965, gage height, 8.39 ft, from rating curve extended above 2,200 ft³/s; maximum gage height, 9.13 ft Feb. 1, 1963, ice jam; minimum discharge, 0.90 ft³/s Aug. 19, 20, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	57	13	6.4	4.2	2.9	1.9	1.4
3	57	15	7.5	4.9	3.3	2.1	1.5
7	57	17	8.4	5.4	3.6	2.2	1.5
14	57	19	10	6.7	4.6	3.0	2.1
30	57	21	12	8.7	6.4	4.5	3.5
60	57	26	16	12	10	7.8	6.6
90	57	30	20	17	14	12	10
120	57	35	25	21	18	15	14
183	57	54	37	30	25	20	18

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	58	1480	2190	2630	3140	3500	3840
3	58	1350	1940	2290	2670	2930	3160
7	58	1200	1670	1920	2170	2330	2460
15	58	1050	1470	1690	1910	2040	2160
30	58	906	1250	1430	1610	1720	1820
60	58	766	1060	1230	1400	1510	1600
90	58	663	917	1060	1210	1310	1390

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1100	1640	2410	2940	3630	4150	4670

Systematic n = 57 historical n = 0
Weighted skew = -0.088

JOHN DAY RIVER BASIN

14044500 FOX CREEK AT GORGE, NEAR FOX, OR

LOCATION.--Lat 44°37'30", long 119°15'10", in SW 1/4 sec.8, T.11 S., R.29 E., Grant County, Hydrologic Unit 17070202, on left bank 0.5 mi upstream from head of gorge and 6 mi southwest of Fox.

DRAINAGE AREA.--90.2 mi²; at site used prior to June 12, 1952, 91.5 mi².

PERIOD OF RECORD.--October 1930 to September 1958.

GAGE.--Water-stage recorder. Elevation of gage is 4,240 ft National Geodetic Vertical Datum of 1929 (from topographic map). Prior to June 12, 1952, at site 0.5 mi downstream at different datum.

REMARKS.--Diversions for irrigation of 4,800 acres upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1931-58), 25.9 ft³/s, 18,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s Mar. 25, 1952, gage height, 5.85 ft, former site and datum, from rating curve extended above 200 ft/s on basis of slope-area measurement of peak flow; no flow at times in each year.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1958

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	27	0.0	0.0	0.0	0.0	0.0	0.0
3	27	0.0	0.0	0.0	0.0	0.0	0.0
7	27	0.0	0.0	0.0	0.0	0.0	0.0
14	27	0.0	0.0	0.0	0.0	0.0	0.0
30	27	0.0	0.0	0.0	0.0	0.0	0.0
60	27	0.0	0.0	0.0	0.0	0.0	0.0
90	27	0.1	0.0	0.0	0.0	0.0	0.0
120	27	0.1	0.0	0.0	0.0	0.0	0.0
183	27	0.7	0.1	0.1	0.0	0.0	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	28	294	549	739	994	1190	1390
3	28	238	451	613	832	1000	1180
7	28	186	334	430	544	621	691
15	28	149	249	300	345	370	387
30	28	123	190	216	234	242	246
60	28	100	154	176	192	199	203
90	28	84	128	145	158	163	166

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1931-1958

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
217	410	798	1150	1700	2200	2800	

Systematic n = 28 historical n = 0
Weighted skew = 0.171

JOHN DAY RIVER BASIN

14046000 NORTH FORK JOHN DAY RIVER AT MONUMENT, OR

LOCATION.--Lat $44^{\circ}48'50''$, long $119^{\circ}25'50''$, in SE 1/4 sec.2, T.9 S., R.27 E., Grant County, Hydrologic Unit 17070202, on right bank just downstream from entrance to canyon, 0.7 mi downstream from Cottonwood Creek, 0.8 mi west of Monument, and at mile 15.3.

DRAINAGE AREA.--2,520 mi², approximately.

PERIOD OF RECORD.--March 1925 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 754: 1932(M). WSP 1448: 1927, 1931(M), 1949.

GAGE.--Water-stage recorder. Datum of gage is 1,959.64 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1925, nonrecording gage and Nov. 24, 1925, to Oct. 16, 1928, water-stage recorder at datum 1.10 ft higher. Oct. 17, 1928, to Sept. 30, 1930, water-stage recorder at datum 1.00 ft higher.

REMARKS.--Very slight regulation by small reservoirs upstream. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--62 years, 1,293 ft³/s, 936,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft³/s Jan. 30, 1965, gage height, 18.45 ft, from rating curve extended above 17,000 ft³/s; minimum discharge, 6 ft³/s sometime during period Nov. 2-13, 1936 (result of freezeup); minimum daily, 17 ft³/s Dec. 12, 1932.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	58	65	40	31	25	19	16
3	58	69	45	35	29	23	20
7	58	76	51	41	34	28	24
14	58	83	56	46	38	31	27
30	58	90	61	50	43	36	32
60	58	104	72	60	51	44	39
90	58	118	84	70	61	52	46
120	58	136	97	81	71	61	55
183	58	228	145	114	93	74	64

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	59	7700	11900	14800	18800	21900	25100
3	59	6970	10400	12700	15600	17700	19800
7	59	6090	8790	10400	12400	13700	14900
15	59	5310	7420	8580	9830	10600	11300
30	59	4540	6240	7150	8090	8670	9160
60	59	3850	5270	6020	6800	7280	7680
90	59	3330	4590	5280	6020	6490	6900

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5910	9240	14600	18500	24000	28400	33000	

Systematic n = 59 historical n = 0
Weighted skew = 0.059

JOHN DAY RIVER BASIN

14046500 JOHN DAY RIVER AT SERVICE CREEK, OR

LOCATION.--Lat 44°47'38", long 120°00'20", in NW 1/4 NE 1/4 sec.18, T.9 S., R.23 E., Wheeler County, Hydrologic Unit 17070204, on left bank 0.2 mi downstream from bridge on State Highway 207, 0.8 mi downstream from Service Creek, 0.5 mi southwest of town of Service Creek, and at mile 156.7.

DRAINAGE AREA.--5,090 mi², approximately.

PERIOD OF RECORD.--March 1925 to September 1926, October 1929 to 1987. Monthly discharge only March 1925 to September 1926, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,632.42 ft above National Geodetic Vertical Datum of 1929. See WSP 1738 for history of changes prior to Feb. 24, 1957.

REMARKS.--Slight regulation by several small reservoirs upstream from station. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--59 years, 1,941 ft³/s, 1,406,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft³/s Dec. 23, 1964, gage height, 17.85 ft, from rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 6.0 ft³/s Aug. 23, 24, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	57	90	45	29	20	13	9.1
3	57	92	46	30	21	13	9.5
7	57	95	48	32	22	15	11
14	57	99	51	35	25	17	13
30	57	110	58	41	30	21	16
60	57	138	76	55	42	30	24
90	57	179	103	76	58	43	35
120	57	233	143	109	86	65	53
183	57	405	253	194	155	118	98

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	58	11000	17200	21500	27000	31000	35100
3	58	10100	15600	19200	23500	26600	29600
7	58	8900	13200	15800	18800	20800	22600
15	58	7670	11000	12800	14600	15800	16800
30	58	6570	9210	10600	12000	12800	13500
60	58	5540	7760	8930	10100	10800	11400
90	58	4820	6780	7850	8980	9670	10300

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7720	12400	19500	24600	31200	36300	41400	

Systematic n = 58 historical n = 0
Weighted skew = -0.155

JOHN DAY RIVER BASIN

14047390 ROCK CREEK ABOVE WHYTE PARK, NEAR CONDON, OR

LOCATION.--Lat 45°15'53", long 120°01'15", in NE 1/4 SW 1/4 sec.36, T.3 S., R.22 E., Gilliam County, Hydrologic Unit 17070204, on left bank 0.2 mi upstream from Whyte Park, 8.0 mi northeast of Condon, and at mile 40.8.

DRAINAGE AREA.--297 mi².

PERIOD OF RECORD.--October 1975 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,714.50 ft above National Geodetic Vertical Datum of 1929 (Soil Conservation Service temporary bench mark).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years, 63.4 ft³/s, 45,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft³/s May 5, 1983, gage height, 9.17 ft; maximum gage height, 9.4 ft Feb. 6, 1979; minimum discharge, 0.08 ft³/s Aug. 17, 19, 20, 22, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	0.7	0.3	0.2	--	--	--
3	11	0.7	0.3	0.2	--	--	--
7	11	0.7	0.3	0.2	--	--	--
14	11	0.8	0.3	0.2	--	--	--
30	11	1.0	0.4	0.2	--	--	--
60	11	1.6	0.6	0.4	--	--	--
90	11	2.6	1.1	0.6	--	--	--
120	11	3.6	1.5	0.8	--	--	--
183	11	6.7	3.3	2.2	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	635	1220	1620	--	--	--
3	12	549	987	1250	--	--	--
7	12	451	775	951	--	--	--
15	12	355	611	740	--	--	--
30	12	283	491	593	--	--	--
60	12	225	360	416	--	--	--
90	12	187	303	351	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1976-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
440	885	1780	2570	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.000

JOHN DAY RIVER BASIN

14048000 JOHN DAY RIVER AT MCDONALD FERRY, OR
(National stream quality accounting network station)

LOCATION.--Lat 45°35'16", long 120°24'30", in NE 1/4 NW 1/4 sec.11, T.1 N., R.19 E., Sherman County, Hydrologic Unit 17070204, on left bank at McDonald Ferry, 0.8 mi downstream from Rock Creek, 10 mi east of Klondike, and at mile 20.9.

GAGE AREA.--7,580 mi², approximately.

PERIOD OF RECORD.--December 1904 to 1987. Prior to Oct. 1, 1930, published as "at McDonald."

REVISED RECORDS.--WSP 1094: 1894(M), 1932(M). WSP 1448: 1908-9, 1912, 1916, 1920(M), 1922, 1932.

GAGE.--Water-stage recorder. Datum of gage is 392.27 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 30, 1930, nonrecording gage at same site and datum.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--82 years (water years 1906-87), 2,103 ft³/s, 1,524,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft³/s Dec. 24, 1964, gage height, 13.59 ft, from floodmark, from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow; no flow for part of Sept. 2, 1966, Aug. 15 to Sept. 16, 1973, Aug. 13, 14, 19-25, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1894 reached a stage of 12.8 ft, from floodmarks, discharge, 39,100 ft³/s, from rating curve extended above 22,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1906-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	82	91	37	20	10	0.0	0.0
3	82	92	40	22	12	0.0	0.0
7	82	96	42	25	14	0.0	0.0
14	82	116	45	22	10	2.4	0.0
30	82	117	53	32	19	8.1	0.0
60	82	151	75	49	33	21	15
90	82	187	105	75	56	40	31
120	82	241	148	112	88	66	55
183	82	407	264	209	172	138	118

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	82	11600	17500	21500	26500	30200	33800
3	82	10600	15900	19300	23300	26000	28700
7	82	9300	13700	16300	19300	21400	23200
15	82	8080	11500	13400	15400	16700	17800
30	82	6910	9800	11400	13000	14100	15000
60	82	5890	8360	9710	11100	12000	12800
90	82	5170	7340	8560	9880	10700	11500

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1894-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
8030	12600	19400	24200	30500	35200	40100	

Systematic n = 82 historical n = 94
Weighted skew = -0.139

SANDY RIVER BASIN

14135500 SALMON RIVER ABOVE BOULDER CREEK, NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°21'40", long 122°00'40", in SW 1/4 SE 1/4 sec.25, T.2 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, on left bank 1.1 mi upstream from Boulder Creek, 1.2 mi south of Brightwood, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--106 mi².

PERIOD OF RECORD.--August 1936 to September 1952.

GAGE.--Water-stage recorder. Datum of gage is 1,089.2 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1937-52) 452 ft³/s, 327,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s Dec. 14, 1946, gage height, 7.08 ft, from rating curve extended above 4,100 ft³/s by logarithmic plotting; minimum, 59 ft³/s Nov. 30, Dec. 1, 1936, Sept. 25, 26, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	81	70	65	61	--	--
3	15	82	71	65	61	--	--
7	15	83	72	67	63	--	--
14	15	86	75	70	66	--	--
30	15	91	79	74	69	--	--
60	15	100	86	79	74	--	--
90	15	111	92	84	78	--	--
120	15	134	105	92	83	--	--
183	15	217	156	132	114	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1937-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	3270	4760	5960	7760	--	--
3	16	2270	3440	4490	6240	--	--
7	16	1690	2490	3150	4170	--	--
15	16	1290	1780	2120	2560	--	--
30	16	1100	1420	1600	1800	--	--
60	16	916	1110	1210	1290	--	--
90	16	834	1010	1100	1170	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1937-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3290	4910	7340	9050	11300	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.008

DESCHUTES RIVER BASIN

14050500 CULTUS RIVER ABOVE CULTUS CREEK, NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}49'06''$, long $121^{\circ}47'40''$, near line between secs. 20 and 29, T. 20 S., R. 8 E., Deschutes County, Hydrologic Unit 17070301, Deschutes National Forest, on left bank at highway culvert, 2 mi upstream from Cultus Creek, and 18 mi northwest of La Pine.

DRAINAGE AREA.-- 16.5 mi^2 , hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--October 1922 to September 1925, October 1937 to 1987. Monthly discharge only October 1937, published in WSP 1318. Prior to Oct. 1, 1964, published as "near Lapine."

REVISED RECORDS.--WSP 1448: 1923-25, 1947.

GAGE.--Water-stage recorder and cement bag control. Elevation of gage is 4,450 ft, by barometer. Oct 1, 1922, to Sept. 30, 1925, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--53 years, $63.2 \text{ ft}^3/\text{s}$, 45,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, $178 \text{ ft}^3/\text{s}$ May 31, 1956, gage height, 1.04 ft; maximum gage height, 1.32 ft May 16, 1972 (backwater from Crane Prairie Reservoir); minimum discharge, $26 \text{ ft}^3/\text{s}$ May 26-31, Nov. 23 to Dec. 4, 1959.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	43	36	33	30	27	26
3	51	43	37	33	31	28	26
7	51	44	37	33	31	28	26
14	51	45	37	34	31	28	26
30	51	46	39	35	33	30	28
60	51	48	40	36	34	30	28
90	51	50	41	37	34	31	29
120	51	51	42	38	35	31	29
183	51	55	45	40	36	32	30

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1923-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	53	88	112	126	143	155	166
3	53	87	110	124	141	152	163
7	53	86	108	122	137	148	158
15	53	84	106	118	132	142	151
30	53	82	102	113	126	135	143
60	53	80	98	108	119	127	134
90	53	78	96	106	117	125	132

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1987

DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
69	90	115	130	148	161	174	

Systematic n = 53 historical n = 0
Weighted skew = -0.116

DESCHUTES RIVER BASIN

14051000 CULTUS CREEK ABOVE CRANE PRAIRIE RESERVOIR, NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}49'17''$, long $121^{\circ}49'22''$, in SW 1/4 sec.19, T.20 S., R.8 E., Deschutes County, Hydrologic Unit 17070301, on left bank 1,000 ft upstream from highway bridge, 1.0 mi downstream from Cultus Lake, and 19 mi northwest of La Pine.

DRAINAGE AREA.--33.2 mi², hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--March to September 1924 (published as "above Crane Prairie, near Lapine"), October 1937 to 1987. Monthly discharge only October 1937 to September 1949, published in WSP 1318. Records for October 1923 to February 1924, published in WSP 594, have been found to be unreliable and should not be used. Published as "near Lapine" 1937-64.

REVISED RECORDS.--WSP 1568: 1957. WRD Oreg. 1973: 1972. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 4,545 ft, by barometer. Mar. 1 to Sept. 30, 1924, nonrecording gage at site 100 ft upstream at different datum.

REMARKS.--Some regulation by fish screens at Cultus Lake since 1962. No diversion upstream from station.

AVERAGE DISCHARGE.--50 years (water years 1938-87), 22.6 ft³/s, 16,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 336 ft³/s Dec. 25, 1964, gage height, 4.15 ft, from floodmark, from rating curve extended above 90 ft³/s; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1939-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	0.1	0.0	0.0	0.0	0.0	--
3	23	0.1	0.0	0.0	0.0	0.0	--
7	23	0.1	0.0	0.0	0.0	0.0	--
14	23	0.1	0.0	0.0	0.0	0.0	--
30	23	0.2	0.0	0.0	0.0	0.0	--
60	23	0.4	0.0	0.0	0.0	0.0	--
90	23	0.8	0.1	0.0	0.0	0.0	--
120	23	1.9	0.4	0.1	0.0	0.0	--
183	23	5.8	1.1	0.3	0.1	0.0	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1924-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	101	156	189	229	256	281
3	25	100	154	188	227	254	279
7	25	96	148	180	217	242	266
15	25	91	137	165	198	220	241
30	25	82	122	147	174	193	210
60	25	67	99	118	140	154	168
90	25	54	79	94	111	122	132

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1962

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
65	102	156	192	239	274	309	

Systematic n = 26 historical n = 0
Weighted skew = -0.210

DESCHUTES RIVER BASIN

14051000 CULTUS CREEK ABOVE CRANE PRAIRIE RESERVOIR, NEAR LA PINE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1964-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	0.1	0.0	0.0	0.0	0.0	--
3	24	0.1	0.0	0.0	0.0	0.0	--
7	24	0.1	0.0	0.0	0.0	0.0	--
14	24	0.1	0.0	0.0	0.0	0.0	--
30	24	0.1	0.0	0.0	0.0	0.0	--
60	24	0.2	0.0	0.0	0.0	0.0	--
90	24	0.5	0.1	0.0	0.0	0.0	--
120	24	1.3	0.4	0.2	0.1	0.0	--
183	24	5.9	2.7	1.6	1.0	0.5	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	104	169	214	271	314	356
3	25	102	165	208	261	300	339
7	25	98	157	195	243	278	311
15	25	90	142	175	215	243	270
30	25	79	123	150	182	204	225
60	25	61	94	114	138	154	170
90	25	48	73	88	105	116	126

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14052000 DEER CREEK ABOVE CRANE PRAIRIE RESERVOIR, NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}48'48''$, long $121^{\circ}50'18''$, in SE $1/4$ SW $1/4$ sec.25, T.20 S., R.7 E., Deschutes County, Hydrologic Unit 17070301, on right bank 150 ft downstream from highway bridge, 1.2 mi downstream from Little Cultus Lake, and 19 mi northwest of La Pine.

DRAINAGE AREA.--21.5 mi², hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--February to September 1924 (published as "above Crane Prairie, near Lapine"). October 1937 to 1987. Monthly discharge only October 1937 to September 1949, published in WSP 1318. Records for October 1923 to January 1924, published in WSP 594, have been found to be unreliable and should not be used. Published as "near Lapine" 1937-64.

REVISED RECORDS.--See PERIOD OF RECORD.

GAGE.--Water-stage recorder and sharp-crested weir control. Elevation of gage is 4,520 ft, by barometer. Feb. 1 to Sept. 30, 1924, nonrecording gage at site 75 ft upstream at various datums. Oct. 1, 1937, to Sept. 30, 1938, water-stage recorder at bridge 150 ft upstream at different datum. Oct. 1, 1938, to Aug. 13, 1968, water-stage recorder and wooden weir control at present site and datum 0.60 ft higher.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--50 years (water years 1938-87), 7.48 ft³/s, 5,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200 ft³/s, estimated, Dec. 25, 1964; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	31	0.0	0.0	0.0	0.0	0.0	0.0
3	31	0.0	0.0	0.0	0.0	0.0	0.0
7	31	0.0	0.0	0.0	0.0	0.0	0.0
14	31	0.1	0.0	0.0	0.0	0.0	0.0
30	31	0.1	0.0	0.0	0.0	0.0	0.0
60	31	0.1	0.1	0.0	0.0	0.0	0.0
90	31	0.2	0.1	0.1	0.0	0.0	0.0
120	31	0.3	0.1	0.1	0.1	0.0	0.0
183	31	1.2	0.7	0.5	0.4	0.3	0.2

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1938-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	50	51	73	84	95	101	106
3	50	49	70	79	89	94	98
7	50	46	64	73	80	85	88
15	50	40	57	65	73	77	80
30	50	34	49	56	64	69	72
60	50	25	37	43	49	53	56
90	50	20	28	33	37	40	42

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1938-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
32	51	78	98	123	143	163

Systematic n = 50 historical n = 0
Weighted skew = -0.139

DESCHUTES RIVER BASIN

14052500 QUINN RIVER NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}47'03''$, long $121^{\circ}50'06''$, in SW 1/4 NW 1/4 sec.1, T.21 S., R.7 E., Deschutes County, Hydrologic Unit 17070301, Deschutes National Forest, on left bank at flow line of Crane Prairie Reservoir, 150 ft downstream from springs at head of river, and 18 mi northwest of La Pine.

DRAINAGE AREA.--Indeterminate, normal flow is entirely from springs 150 ft upstream.

PERIOD OF RECORD.--June 1922 to September 1925, October 1937 to 1987. Published as "above Crane Prairie Reservoir near Lapine" 1922-25, and as "near Lapine" 1937-64. Monthly discharge only October 1937, published in WSP 1318.

REVISED RECORDS.--WSP 1448: 1939, 1941.

GAGE.--Water-stage recorder and log control. Datum of gage is 4,442.1 ft above National Geodetic Vertical Datum of 1929, based on elevation of Crane Prairie Reservoir when slack water reached station. June 1, 1922, to Sept. 30, 1925, nonrecording gage at site 150 ft downstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--53 years, $24.3 \text{ ft}^3/\text{s}$, 17,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, $59 \text{ ft}^3/\text{s}$ July 4, 1949, gage height, 1.97 ft; maximum gage height, 3.92 ft June 25, 1943 (backwater from Crane Prairie Reservoir); practically no flow Nov. 14, 1941.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1939-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	49	15	8.8	6.1	4.1	0.0	0.0
3	49	15	9.0	6.3	4.4	0.0	0.0
7	49	15	9.2	6.5	4.6	0.0	0.0
14	49	17	9.5	5.8	3.4	1.7	0.9
30	49	17	9.9	6.3	3.9	2.1	1.3
60	49	18	10	6.8	4.4	2.5	1.6
90	49	18	11	7.3	5.0	3.0	2.0
120	49	19	11	7.9	5.5	3.5	2.5
183	49	20	13	9.1	6.6	4.4	3.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1938-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	50	38	48	53	56	58	60
3	50	39	48	52	55	57	58
7	50	39	48	52	55	56	57
15	50	38	47	51	54	56	57
30	50	37	46	50	53	54	55
60	50	36	45	49	51	53	54
90	50	35	44	47	50	51	52

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1938-1987

DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
29	37	48	54	61	66	70	

Systematic n = 50 historical n = 0
Weighted skew = -0.289

DESCHUTES RIVER BASIN

14054000 DESCHUTES RIVER BELOW CRANE PRAIRIE RESERVOIR, NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}45'13''$, long $121^{\circ}46'57''$, in SW 1/4 NW 1/4 sec.16, T.21 S., R.8 E., Deschutes County, Hydrologic Unit 17070301, Deschutes National Forest, on left bank 0.1 mi downstream from Crane Prairie Dam, 15 mi northwest of La Pine, and at mile 238.2.

DRAINAGE AREA.--254 mi², hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--August 1907 to November 1908 and August 1912 to September 1913 (fragmentary), October 1913 to September 1917, February 1922 to 1987. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1949, published as "at Crane Prairie, near Lapine." Published as "near Lapine" 1949-64.

REVISED RECORDS.--WSP 1218: Drainage area. WSP 1318: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 4,419.78 ft above National Geodetic Vertical Datum of 1929 (Pacific Power & Light Co. bench mark). Aug. 15, 1907, to Sept. 30, 1917, and Feb. 23 to June 8, 1922, nonrecording gage at site 0.5 mi upstream at different datums. June 9, 1922, to May 9, 1932, nonrecording gage or water-stage recorder at present site and datum.

REMARKS.--Flow regulated since 1922 by Crane Prairie Reservoir (station 14053500). No diversion upstream from station.

AVERAGE DISCHARGE.--69 years, 214 ft³/s, 155,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s July 28, 1947, gage height, 3.34 ft; no flow Nov. 15, 1978, when gates in Crane Prairie Dam were closed.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	64	29	9.9	5.2	2.9	1.4	0.8
3	64	30	11	5.6	3.2	1.6	0.9
7	64	32	12	6.1	3.4	1.7	1.0
14	64	35	14	7.8	4.8	2.6	1.7
30	64	37	16	9.4	6.0	3.6	2.5
60	64	47	20	12	7.4	4.2	2.9
90	64	61	25	14	8.8	4.8	3.1
120	64	75	31	17	10	5.3	3.3
183	64	121	65	43	30	18	13

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1923-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	65	510	662	768	908	1020	1130
3	65	506	656	760	899	1010	1120
7	65	500	640	732	849	936	1020
15	65	482	615	703	815	900	986
30	65	449	571	652	755	833	912
60	65	399	499	564	644	703	762
90	65	363	457	520	601	662	724

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14054500 BROWN CREEK NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}42'57''$, long $121^{\circ}48'10''$, in NE 1/4 SW 1/4 sec.29, T.21 S., R.8 E., Deschutes County, Hydrologic Unit 17070301, in Deschutes National Forest, on right bank at highway crossing and 15 mi northwest of La Pine.

DRAINAGE AREA.--21 mi², approximately, hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--May 1922 to September 1925, July 1938 to 1987. Monthly discharge only July 1938 to September 1949, published in WSP 1318. Prior to Oct. 1, 1964, published as "near Lapine."

REVISED RECORDS.--WSP 1448: 1922-24. WDR OR-78-1: 1977.

GAGE.--Water-stage recorder. Elevation of gage is 4,370 ft, from topographic map. May 24, 1922, to Sept. 30, 1925, nonrecording gage, and July 1, 1938, to Nov. 1, 1945, water-stage recorder at site 0.4 mi downstream at different datums. Nov. 2, 1945, to Aug. 25, 1971, water-stage recorder at site 0.8 mi upstream at datum of 4,372.94 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. No diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 38.8 ft³/s, 28,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104 ft³/s Aug. 4, 1956, gage height, 1.64 ft; maximum gage height, 3.50 ft Jan. 30, 1980, backwater from ice; minimum discharge, 16 ft³/s July 22-25, 1941, and at times December 1941 to March 1942.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	50	30	24	21	18	16	15
3	50	30	24	21	19	16	15
7	50	30	24	21	19	16	15
14	50	31	24	21	19	16	15
30	50	31	25	22	19	17	15
60	50	32	25	22	20	17	15
90	50	33	26	22	20	17	15
120	50	34	26	23	20	17	16
183	50	36	28	24	21	18	16

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1923-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	51	63	70	78	82	87
3	52	50	62	68	75	80	83
7	52	49	61	67	74	78	82
15	52	49	61	67	74	78	82
30	52	48	60	66	73	77	81
60	52	47	59	65	72	76	79
90	52	46	57	63	70	74	77

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
41	52	67	76	87	94	101

Systematic n = 51 historical n = 0
Weighted skew = -0.107

DESCHUTES RIVER BASIN

14055500 ODELL CREEK NEAR CRESCENT, OR

LOCATION.--Lat 43°32'51", long 121°57'41", in SW 1/4 SW 1/4 sec.25, T.23 S., R.6 E., Klamath County, Hydrologic Unit 17070301, on left bank 1,000 ft downstream from Odell Lake, 3 mi north of town of Crescent Lake, and 14 mi northwest of Crescent.

DRAINAGE AREA.--39.0 mi².

PERIOD OF RECORD.--August, September 1911, August, September 1912, January, February, May to November 1913, April to August 1914, December 1923 to June 1924, May 1933 to September 1976. Gage heights and discharge measurements only August, September 1911, January 1913. Published as Odell Lake outlet near Crescent 1911-12. Records for January to July 1912, published in WSP 332, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 4,799.05 ft above National Geodetic Vertical Datum of 1929. Prior to June 7, 1924, nonrecording gage at several sites within 700 ft of present site at various datums.

REMARKS.--Flow affected occasionally in winter by ice jams at outlet of Odell Lake, and slightly affected at times by seiches in Odell Lake. No diversion upstream from station.

AVERAGE DISCHARGE.--43 years (water years 1933-76), 82.5 ft³/s, 28.73 in/yr, 59,770 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s Dec. 25, 1964, gage height, 2.60 ft, from rating curve extended above 250 ft³/s; minimum, 9 ft³/s sometime during period Sept. 7-30, 1934.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1935-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	42	27	19	15	13	11	9.6
3	42	29	20	16	14	11	9.9
7	42	31	21	17	15	12	11
14	42	32	23	19	16	13	12
30	42	35	24	20	17	14	13
60	42	37	27	22	19	16	14
90	42	41	29	25	21	18	16
120	42	46	34	28	25	21	19
183	42	59	45	39	34	30	27

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1934-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	43	209	310	400	546	681	844
3	43	201	297	383	520	648	802
7	43	187	271	345	461	568	694
15	43	166	232	285	366	437	517
30	43	148	195	228	274	310	348
60	43	128	163	186	217	240	263
90	43	115	143	162	185	201	218

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1933-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
171	236	345	430	556	662	781	

Systematic n = 44 historical n = 0
Weighted skew = 0.573

DESCHUTES RIVER BASIN

14056500 DESCHUTES RIVER BELOW WICKIUP RESERVOIR, NEAR LA PINE, OR

LOCATION.--Lat 43°41'10", long 121°41'13", in NW 1/4 NE 1/4 sec.7, T.22 S., R.9 E., Deschutes County, Hydrologic Unit 17070301, on left bank 1,000 ft downstream from Wickiup Dam, 9 mi west of La Pine, and at mile 226.4.

DRAINAGE AREA.--483 mi², hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--June 1938 to 1987. Monthly discharge only June 1938, published in WSP 1318. Published as "near Lapine" 1938-64.

REVISED RECORDS.--WSP 1448: 1944(m), 1947-51(m).

GAGE.--Water-stage recorder. Datum of gage is 4,257.41 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Flow regulated by Crane Prairie Reservoir (station 14053500), and since 1942 by Wickiup Reservoir (station 14056000). Some leakage from Crane Prairie and Wickiup Reservoirs does not pass station. Some spill bypassed station in 1955. Crater Creek canal diverts water upstream from station to Tumalo Creek basin.

AVERAGE DISCHARGE.--49 years, 743 ft³/s, 538,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,280 ft³/s July 28 to Aug. 1, 1956, July 31, Aug. 1, 2, 1962; minimum, 1.9 ft³/s Nov. 10, 1973; minimum daily, 10 ft³/s Jan. 17, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1944-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	44	32	16	12	9.5	7.7	6.8
3	44	33	17	13	10	8.4	7.5
7	44	38	19	14	11	9.1	8.0
14	44	44	21	15	11	8.7	7.4
30	44	52	23	15	11	8.4	6.9
60	44	60	25	16	12	8.4	6.8
90	44	69	27	17	12	8.0	6.3
120	44	86	31	19	12	7.8	5.8
183	44	215	111	78	58	41	33

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	45	1910	2090	2170	2230	2270	2290
3	45	1890	2080	2160	2230	2260	2290
7	45	1860	2060	2150	2220	2260	2280
15	45	1820	2030	2120	2200	2250	2270
30	45	1750	1970	2060	2150	2200	2240
60	45	1670	1870	1960	2050	2100	2140
90	45	1590	1780	1860	1940	1990	2020

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14057000 DESCHUTES RIVER AT PRINGLE FALLS, NEAR LAPINE, OR

LOCATION.--Lat $43^{\circ}44'20''$, long $121^{\circ}36'50''$, in SW 1/4 sec.23, T.21 S., R.9 E., Deschutes County, Hydrologic Unit 17070301, on left bank 0.5 mi upstream from bridge at Pringle Falls, 7 mi northwest of Lapine, and at mile 217.

DRAINAGE AREA.--507 mi², hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--October 1915 to September 1917, June 1922 to September 1952. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 4,243.26 ft above National Geodetic Vertical Datum of 1929 (Forest Service bench mark). Prior to June 6, 1922, staff gage at practically same site at datum 3.09 ft higher. June 6, 1922, to Nov. 9, 1947, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--Flow regulated since 1922 by Crane Prairie Reservoir, and since 1942 by Wickiup Reservoir. Crater Creek Canal diverts water above station to Tumalo Creek basin.

AVERAGE DISCHARGE.--32 years (water years 1916-17, 1923-52), 727 ft³/s, 526,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft³/s Sept. 4, 8, 1951, gage height, 5.94 ft; minimum, 27 ft³/s Jan. 19, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1924-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	543	473	436	405	--	--
3	18	544	473	436	405	--	--
7	18	550	477	439	407	--	--
14	18	554	482	445	415	--	--
30	18	560	492	458	431	--	--
60	18	570	501	466	438	--	--
90	18	585	510	471	440	--	--
120	18	596	517	479	448	--	--
183	18	632	547	506	474	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1923-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	989	1100	1150	1210	--	--
3	19	987	1090	1150	1200	--	--
7	19	983	1090	1140	1200	--	--
15	19	971	1080	1130	1190	--	--
30	19	955	1060	1120	1170	--	--
60	19	919	1020	1070	1130	--	--
90	19	888	987	1040	1090	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1941

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
890	1000	1130	1200	1280	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = 0.069

DESCHUTES RIVER BASIN
14057000 DESCHUTES RIVER AT PRINGLE FALLS, NEAR LAPINE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1944-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	58	27	18	13	--	--
3	17	60	28	19	14	--	--
7	17	69	35	25	19	--	--
14	17	76	37	26	19	--	--
30	17	86	41	28	21	--	--
60	17	93	44	31	23	--	--
90	17	107	51	35	26	--	--
120	17	155	72	46	32	--	--
183	17	315	204	161	132	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	1900	2170	2290	2400	--	--
3	18	1880	2160	2280	2390	--	--
7	18	1840	2140	2280	2400	--	--
15	18	1810	2130	2270	2410	--	--
30	18	1760	2070	2210	2340	--	--
60	18	1690	1990	2130	2260	--	--
90	18	1600	1890	2010	2130	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

DESCHUTES RIVER BASIN

14057500 FALL RIVER NEAR LA PINE, OR

LOCATION.--Lat $43^{\circ}47'48''$, long $121^{\circ}34'18''$, in NW 1/4 SE 1/4 sec.31, T.20 S., R.10 E., Deschutes County, Hydrologic Unit 17070301, on left bank 50 ft downstream from pond spillway at State fish hatchery, 9 mi northwest of La Pine, and at mile 4.8.

DRAINAGE AREA.--45.1 mi², hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--July 1938 to 1987. Records for May to September 1912 at site 3 mi downstream not equivalent owing to difference in drainage area. Prior to Oct. 1, 1964, published as "near Lapine."

REVISED RECORDS.--WSP 984: 1938-42(M,m).

GAGE.--Water-stage recorder. Elevation of gage is 4,220 ft, by barometer.

REMARKS.--Diversion only to ponds at fish hatchery 50 ft upstream from station, from which water returns to river upstream from station. Stream is spring fed and momentary extremes are caused by operation of fish hatchery.

AVERAGE DISCHARGE.--49 years, 150 ft³/s, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 254 ft³/s June 5, 1965, gage height, 2.02 ft; minimum discharge, 67 ft³/s sometime during period Sept. 20-30, 1969.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	48	133	111	99	90	81	74
3	48	134	111	100	90	81	74
7	48	134	111	100	91	81	74
14	48	135	112	100	91	81	75
30	48	137	113	101	91	81	75
60	48	139	115	103	93	82	75
90	48	141	116	104	94	83	76
120	48	142	117	105	94	83	76
183	48	144	119	106	96	85	78

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	49	169	199	214	230	239	248
3	49	169	198	214	229	238	247
7	49	168	198	213	229	239	247
15	49	167	197	212	228	237	245
30	49	166	195	209	224	234	242
60	49	164	193	207	222	231	238
90	49	163	191	205	219	228	235

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14060000 CRESCENT CREEK AT CRESCENT LAKE, NEAR CRESCENT, OR

LOCATION.--Lat 43°30'11", long 121°58'20", in SE 1/4 SW 1/4 sec.11, T.24 S., R.6 E., Klamath County, Hydrologic Unit 17070302, Deschutes National Forest, on left bank 400 ft downstream from Crescent Lake Dam, 0.5 mi south of town of Crescent Lake, 14 mi west of Crescent, and at mile 29.9.

DRAINAGE AREA.--60.7 mi², hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--January to September 1911 (gage heights and discharge measurements only), January 1912 to July 1915, July to September 1927, May 1928 to 1987. Published as Crescent Lake outlet near Crescent January 1911 to September 1912, and as Crescent Creek at outlet of Crescent Lake, near Crescent October 1913 to July 1915.

REVISED RECORDS.--WSP 1218: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 4,819.96 ft above National Geodetic Vertical Datum of 1929. See WSP 1935 for history of changes prior to Sept. 11, 1956.

REMARKS.--Flow regulated since 1922 by Crescent Lake (station 14059500). No diversion upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1913-14, 1929-87), 58.2 ft³/s, 42,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 313 ft³/s July 9, 1929, Aug. 9, 1936; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1987

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	58	1.2	0.0	0.0	0.0	0.0	0.0
3	58	1.2	0.0	0.0	0.0	0.0	0.0
7	58	1.4	0.0	0.0	0.0	0.0	0.0
14	58	1.8	0.0	0.0	0.0	0.0	0.0
30	58	1.8	0.0	0.0	0.0	0.0	0.0
60	58	2.2	0.0	0.0	0.0	0.0	0.0
90	58	2.6	0.0	0.0	0.0	0.0	0.0
120	58	3.2	0.0	0.0	0.0	0.0	0.0
183	58	6.2	0.1	0.0	0.0	0.0	0.0

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	59	228	267	280	287	290	292
3	59	226	265	277	284	287	289
7	59	221	260	272	279	282	284
15	59	213	253	267	277	281	284
30	59	203	245	260	271	275	278
60	59	181	226	242	254	260	263
90	59	156	206	228	245	254	260

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14061000 BIG MARSH CREEK AT HOEY RANCH, NEAR CRESCENT, OR

LOCATION.--Lat $43^{\circ}28'40''$, long $121^{\circ}54'50''$, NW 1/4 SW 1/4 in sec.20, T.24 S., R.7 E., Klamath County, Hydrologic Unit 17070302, about 0.5 mi upstream from mouth, 2 mi east of Crescent Lake, and 11 mi west of Crescent.DRAINAGE AREA.--51.5 mi², hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--April 1912 to December 1913, April to September 1914, April to May 1924, May 1928 to September 1930, May 1931 to September 1958.

GAGE.--Water-stage recorder. Elevation of gage is about 4,630 ft (from topographic map). Prior to Sept. 8, 1939, staff gages or water-stage recorder at several sites within 0.2 mi of present site at various datums.

REMARKS.--No diversion or regulation upstream from station.

COOPERATION.--Records for water years 1924, 1928-58, furnished by Oregon Water Resources Department.

AVERAGE DISCHARGE.--30 years (water years 1912-13, 1928-30, 1931-58), 72.1 ft³/s.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 602 ft³/s May 30, 1956, gage height 5.54 ft; (maximum gage height 4.56 ft Dec. 28, 30, 31, 1945 (backwater from ice)); no flow Mar. 27, 1935, result of unusual regulation, but cause unknown.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	28	16	9.2	6.3	4.4	2.7	1.9
3	28	16	10	7.6	5.9	4.3	3.4
7	28	17	11	8.3	6.4	4.7	3.8
14	28	18	11	8.6	6.6	4.8	3.8
30	28	19	12	9.3	7.2	5.2	4.1
60	28	20	14	11	9.1	7.2	6.1
90	28	22	15	12	10	8.3	7.1
120	28	24	17	14	12	9.5	8.3
183	28	31	21	18	15	13	12

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	267	371	437	517	573	628
3	30	260	363	426	502	555	605
7	30	245	340	395	459	502	542
15	30	222	311	364	425	466	505
30	30	204	287	335	388	423	454
60	30	179	249	288	331	357	381
90	30	152	208	240	274	296	315

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1912-1958

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
193	276	397	482	594	680	768

Systematic n = 32 historical n = 0
Weighted skew = 0.060

DESCHUTES RIVER BASIN

14063000 LITTLE DESCHUTES RIVER NEAR LA PINE, OR

LOCATION.--Lat 43°41'21", long 121°30'06", in SW 1/4 SW 1/4 sec.2, T.22 S., R.10 E., Deschutes County, Hydrologic Unit 17070302, on right bank 10 ft downstream from highway bridge, 1.1 mi north of La Pine, and at mile 26.8.

DRAINAGE AREA.--859 mi², hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--September 1910 to January 1911, March, April, August 1911, March to September 1912, June to October 1913, June to November 1918, August to October 1920, May 1924 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as Deschutes River near Lapine 1910-12, as East Fork Deschutes River near Lapine 1913-20, and as Little Deschutes River near Lapine 1924-64.

REVISED RECORDS.--WSP 1218: 1950.

GAGE.--Water-stage recorder. Datum of gage is 4,192.81 ft above National Geodetic Vertical Datum of 1929. Sept. 1, 1910, to Aug. 31, 1911, nonrecording gage at present site at different datum. Mar. 1 to Sept. 30, 1912, nonrecording gage at site 1.2 mi downstream at different datum. June 1, 1913, to Sept. 28, 1928, nonrecording gage and Sept. 29, 1928, to Sept. 30, 1931, water-stage recorder at present site at different datums.

REMARKS.--Flow regulated since 1922 by Crescent Lake (station 14059500). Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--63 years (water years 1925-87), 208 ft³/s, 150,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft³/s Dec. 25, 1964, gage height, 8.18 ft; minimum discharge, 8 ft³/s Sept. 2, 3, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	62	49	30	23	18	13	11
3	62	51	31	23	18	14	11
7	62	53	32	24	19	14	11
14	62	56	35	26	21	15	12
30	62	63	39	29	22	16	13
60	62	71	44	33	25	18	14
90	62	82	52	40	32	24	20
120	62	93	60	47	37	29	24
183	62	114	75	59	48	37	31

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	63	543	836	1070	1410	1710	2030
3	63	533	807	1020	1320	1570	1850
7	63	508	758	940	1190	1390	1600
15	63	466	689	845	1050	1210	1380
30	63	423	623	761	939	1070	1210
60	63	371	544	662	814	929	1040
90	63	335	483	583	708	802	895

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14064500 DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OR

LOCATION.--Lat $43^{\circ}55'49''$, long $121^{\circ}24'39''$, in SW 1/4 NE 1/4 sec.16, T.19 S., R.11 E., Deschutes County, Hydrologic Unit 17070301, Deschutes National Forest, on right bank 0.5 mi upstream from Benham Falls, 10 mi southwest of Bend, and at mile 181.4.

DRAINAGE AREA.--1,759 mi².

PERIOD OF RECORD.--April 1906 to September 1913, April to September 1914, August to December 1920, April to September 1921, February 1924 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as "at West's ranch, near Lava" April 1906 to February 1909, April to September 1914. Records for January 1905 to March 1906 and October 1913 to September 1914, published under present name in WSP 370 and 394, have been found to be unreliable and should not be used.

REVISED RECORDS.--See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 4,142.10 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). See WSP 1738 for history of changes prior to Nov. 20, 1958.

REMARKS.--Flow regulated by Crane Prairie Reservoir, Crescent Lake, and Wickiup Reservoir. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--70 years (water years 1907-13, 1925-87), 1,418 ft³/s, 1,027,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s, estimated, Nov. 27, 1909 (gage height not determined); minimum discharge, 363 ft³/s Jan. 20, 1962.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	897	767	699	645	--	--
3	17	908	796	746	708	--	--
7	17	917	812	767	734	--	--
14	17	929	829	787	756	--	--
30	17	941	842	802	774	--	--
60	17	959	855	813	784	--	--
90	17	972	866	823	793	--	--
120	17	983	873	828	797	--	--
183	17	1030	903	849	808	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	1550	1740	1830	1920	--	--
3	18	1540	1720	1810	1900	--	--
7	18	1530	1710	1790	1870	--	--
15	18	1510	1680	1760	1830	--	--
30	18	1490	1650	1730	1800	--	--
60	18	1440	1600	1670	1740	--	--
90	18	1400	1560	1630	1710	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

DESCHUTES RIVER BASIN

14064500 DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OR--Continued

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1945-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	43	603	503	461	430	400	382
3	43	622	519	476	445	414	396
7	43	636	529	484	452	420	401
14	43	649	538	491	458	426	406
30	43	673	556	507	473	438	418
60	43	709	584	533	497	463	443
90	43	748	607	550	509	469	446
120	43	788	632	568	522	477	450
183	43	908	731	655	601	546	513

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1944-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	44	2630	2870	2970	3050	3090	3120
3	44	2620	2840	2930	2990	3030	3050
7	44	2590	2800	2870	2930	2950	2970
15	44	2540	2770	2850	2920	2950	2980
30	44	2490	2720	2820	2900	2940	2970
60	44	2400	2650	2750	2830	2880	2920
90	44	2340	2570	2670	2750	2790	2820

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14066000 DESCHUTES RIVER BELOW LAVA ISLAND, NEAR BEND, OR

LOCATION.--Lat $44^{\circ}00'00''$, long $121^{\circ}22'30''$, in SW 1/4 sec.23, T.18 S., R.11 E., Deschutes County, Hydrologic Unit 17070301, on right bank 0.8 mi downstream from Lava Island, 1.5 mi downstream from intake of Arnold Canal, 5 mi southwest of Bend, and at mile 173.0.

DRAINAGE AREA.--1,829 mi².

PERIOD OF RECORD.--March 1925 to September 1965.

GAGE.--Water-stage recorder. Elevation of gage is 3,025 ft (by barometer). Prior to May 4, 1927, at site 0.2 mi upstream at different datum. May 4, 1927, to Nov. 11, 1947 and Nov. 12, 1947, to Oct. 24, 1959, at present site at datums 2.00 and 1.00 ft higher, respectively.

REMARKS.--Flow regulated by Crescent Lake and Crane Prairie Reservoir and, since 1942, by Wickiup Reservoir. Small diversions for irrigation upstream from station. Arnold Canal diverts upstream from station for irrigation near Bend.

AVERAGE DISCHARGE.--40 years, 1,237 ft³/s, 895,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft³/s Dec. 26, 1964, gage height, 5.14 ft; minimum, 390 ft³/s Jan. 20, 1962.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1927-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	14	784	716	689	671	--	--	
3	14	797	729	704	688	--	--	
7	14	815	748	723	706	--	--	
14	14	828	760	735	718	--	--	
30	14	842	774	749	733	--	--	
60	14	856	785	760	743	--	--	
90	14	873	796	767	748	--	--	
120	14	888	806	773	751	--	--	
183	14	923	828	787	756	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	14	1410	1570	1640	1710	--	--	
3	14	1400	1550	1610	1670	--	--	
7	14	1380	1530	1600	1650	--	--	
15	14	1370	1510	1570	1620	--	--	
30	14	1340	1490	1550	1600	--	--	
60	14	1300	1430	1490	1540	--	--	
90	14	1260	1390	1450	1500	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1941

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1240	1410	1590	1690	1800	--	--	

Systematic n = 15 historical n = 0
Weighted skew = -0.198

DESCHUTES RIVER BASIN

14066000 DESCHUTES RIVER BELOW LAVA ISLAND, NEAR BEND, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1944-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	591	504	465	436	406	--
3	22	604	518	480	452	423	--
7	22	621	530	490	460	429	--
14	22	636	538	496	465	434	--
30	22	662	555	511	479	448	--
60	22	695	579	531	496	462	--
90	22	729	600	545	504	463	--
120	22	764	621	559	513	467	--
183	22	885	721	650	597	544	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	2430	2760	2910	3040	3120	--
3	23	2420	2740	2880	3000	3070	--
7	23	2380	2660	2760	2850	2890	--
15	23	2340	2620	2740	2830	2870	--
30	23	2280	2590	2710	2820	2870	--
60	23	2210	2520	2650	2760	2810	--
90	23	2140	2450	2580	2690	2750	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14070500 DESCHUTES RIVER BELOW BEND, OR

LOCATION.--Lat $44^{\circ}04'59''$, long $121^{\circ}18'24''$, in SE 1/4 SE 1/4 sec.20, T.17 S., R.12 E., Deschutes County, Hydrologic Unit 17070301, on right bank 0.4 mi downstream from North Canal, at city limits of town of Bend, and at mile 164.4.

DRAINAGE AREA.--1,899 mi².

PERIOD OF RECORD.--October 1914 to 1987.

REVISED RECORDS.--WSP 1318: 1916-18(M), 1926(M), 1931(M).

GAGE.--Water-stage recorder. Datum of gage is 3,503.96 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, water-stage recorder at site 200 ft downstream at datum 1.00 ft higher.

REMARKS.--Flow regulated by powerplant at Bend, Crescent Lake, Crane Prairie Reservoir, and Wickiup Reservoir. Six large canals and several small ditches divert water upstream from station for irrigation.

AVERAGE DISCHARGE.--73 years, 501 ft³/s, 363,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,820 ft³/s Dec. 27, 1964, gage height, 4.90 ft; maximum gage height, 5.38 ft Dec. 15, 1932 (backwater from ice); minimum discharge, 1.0 ft³/s Aug. 25, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge near this site since 1905, 4,820 ft³/s Nov. 27, 1909.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	23	17	14	13	11	10
3	30	25	18	16	14	12	11
7	30	28	20	18	16	14	13
14	30	30	22	19	17	16	15
30	30	32	23	20	18	16	16
60	30	37	26	22	20	17	16
90	30	40	27	23	20	18	17
120	30	42	28	24	21	18	17
183	30	53	33	27	23	20	18

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	1190	1620	1920	2300	2590	2890
3	31	1150	1570	1860	2220	2500	2780
7	31	1100	1500	1770	2110	2370	2620
15	31	1020	1400	1660	1980	2220	2460
30	31	909	1280	1540	1890	2160	2430
60	31	821	1170	1410	1740	2000	2280
90	31	772	1080	1300	1600	1830	2070

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT	
							2 50%	5 20%
--	--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14073001 TUMALO CREEK NEAR BEND, OR

LOCATION.--Lat 44°05'16", long 121°22'18", in NW 1/4 SE 1/4 sec.23, T.17S. R.11 E., Deschutes County, Hydrologic Unit 17070301, on left bank 0.25 mi upstream from diversion to Tumalo feed canal, 3.0 mi northwest of Bend, and at mile 3.1.

DRAINAGE AREA.--47.3 mi².

PERIOD OF RECORD.--October 1913 to December 1921, February, April to November 1922, March 1923 to September 1987 (discontinued). Published as "below Bend" 1949-50.

REVISED RECORDS.--WSP 864: 1937. WSP 1218: Drainage area. WSP 1448: 1923(M), 1927-29(M), 1935(M), 1942(M). WDR OR-75-1: 1974(M).

GAGE.--Water-stage recorder. Datum of gage is 3,566.82 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 27, 1915, nonrecording gage and Apr. 27, 1915, to Sept. 30, 1918, water-stage recorder or nonrecording gage at same site and datum.

REMARKS.--All records given herein include flow in Columbia Southern Canal, which diverts 8 mi upstream from station for irrigation of land near Tumalo. Crater Creek Canal diverts flow of tributaries of Soda Creek into head of Tumalo Creek. Diversion upstream from station for municipal supply of Bend since Dec. 15, 1926.

AVERAGE DISCHARGE.--69 years (water years 1914, 1917-21, 1924-35, 1937-87), 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft³/s Nov. 9, 1968 (no flow in canal), from rating curve extended above 780 ft³/s on basis of slope-area measurement at 3.45 ft; minimum daily, 25 ft³/s Jan. 3, 1924.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	63	44	35	30	27	23	21
3	63	47	38	34	31	27	25
7	63	50	41	37	33	30	27
14	63	52	44	41	38	35	33
30	63	55	47	43	40	37	35
60	63	58	49	46	43	40	38
90	63	60	51	48	45	42	40
120	63	62	53	50	47	44	43
183	63	67	58	54	51	48	47

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	64	393	503	570	650	707	761
3	64	358	456	516	585	634	680
7	64	316	401	452	512	554	594
15	64	279	353	397	449	484	518
30	64	251	313	348	386	412	435
60	64	214	267	296	328	349	368
90	64	183	227	251	277	294	310

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14075000 SQUAW CREEK NEAR SISTERS, OR

LOCATION.--Lat 44°14'02", long 121°33'57", in SE 1/4 SW 1/4 sec.29, T.15 S., R.10 E., Deschutes County, Hydrologic Unit 17070301, on right bank 800 ft upstream from intake of McAllister ditch, 4 mi south of Sisters, and at mile 26.8.

DRAINAGE AREA.--45.2 mi², not including 12.6 mi² of Pole Creek. See REMARKS.

PERIOD OF RECORD.--July 1906 to October 1918, June to August 1919, October 1919 to September 1920, May 1921 to September 1924 (no winter records), April 1925 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WDR OR-83-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,490 ft, by barometer. July 1, 1906, to May 29, 1913, nonrecording gage at site 1,000 ft downstream at different datum, below intake of McAllister ditch (records include flow in McAllister ditch). May 30, 1913, to Sept. 2, 1915, nonrecording gage and Mar. 24, 1916, to Oct. 5, 1928, water-stage recorder at site 300 ft downstream at different datum. Oct. 6, 1928, to Nov. 7, 1967, water-stage recorder at site 200 ft downstream at datum 2.64 ft lower.

REMARKS.--No regulation. A canal near mouth of Pole Creek has diverted the entire flow of that creek since 1885. Prior to Oct. 1, 1982, drainage area of 57.8 mi² included that of Pole Creek. Water is diverted from Snow Creek, a tributary upstream from station, for irrigation in Three Creek basin.

AVERAGE DISCHARGE.--75 years (water years 1907-18, 1920, 1926-87), 105 ft³/s, 76,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge since 1909, 2,000 ft³/s Dec. 25, 1980, from rating curve extended above 690 ft³/s on basis of slope-area measurement of peak flow; a maximum gage height of 9.2 ft from water-borne ice was observed on Jan. 11, 1979, and probably occurred on Jan. 10, 1979; previous maximum gage height, about 8.75 ft, over top of gage Nov. 22, 1909, site and datum then in use (discharge not determined); minimum discharge, 14 ft³/s Mar. 2, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1908-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	72	39	32	29	26	24	22
3	72	40	33	30	28	25	23
7	72	41	34	31	29	26	25
14	72	43	36	33	30	27	25
30	72	47	38	35	32	29	27
60	72	51	42	37	34	31	28
90	72	55	45	40	37	33	31
120	72	60	48	43	39	35	33
183	72	66	53	48	44	40	38

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1907-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	75	393	578	722	931	1110	1300
3	75	346	480	578	714	824	942
7	75	301	396	457	531	586	639
15	75	268	343	385	433	465	494
30	75	243	305	339	377	402	425
60	75	214	266	296	328	350	369
90	75	191	235	259	285	302	317

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1908-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
345	523	833	1090	1460	1790	2160	

Systematic n = 72 historical n = 0
Weighted skew = 0.407

DESCHUTES RIVER BASIN

14076500 DESCHUTES RIVER NEAR CULVER, OR

LOCATION.--Lat 44°29'56", long 121°19'12", in NW 1/4 SE 1/4 sec.29, T.12 S., R.12 E., Jefferson County, Hydrologic Unit 17070301, on right bank 2.5 mi downstream from Squaw Creek, 6.0 mi southwest of Culver, and at mile 120.6.

DRAINAGE AREA.--2,705 mi².

PERIOD OF RECORD.--July 1952 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,980 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). July 14, 1952, to Sept. 30, 1961, at site 4.1 mi downstream at different datum.

REMARKS.--Flow regulated by Crescent Lake and Crane Prairie and Wickiup Reservoirs. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--35 years, 929 ft³/s, 673,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,680 ft³/s Dec. 24, 1964, gage height, 10.00 ft, from rating curve extended above 2,200 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 418 ft³/s July 7, 8, 1964.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1954-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	34	486	460	448	438	427	420
3	34	488	462	449	439	428	421
7	34	492	465	452	441	429	422
14	34	497	469	455	444	432	423
30	34	506	473	457	445	432	424
60	34	515	477	460	448	433	425
90	34	529	482	462	448	433	425
120	34	543	489	465	448	435	426
183	34	564	501	474	455	437	426

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1953-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	35	2030	2540	2900	3360	3720	4090
3	35	1920	2410	2740	3180	3510	3850
7	35	1840	2290	2600	3000	3300	3610
15	35	1750	2140	2380	2660	2870	3060
30	35	1610	1970	2190	2450	2640	2810
60	35	1500	1830	2040	2290	2470	2650
90	35	1430	1740	1930	2160	2330	2490

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14077500 NORTH FORK BEAVER CREEK NEAR PAULINA, OR

LOCATION.--Lat 44°10'00", long 119°44'00", in SW 1/4 sec.21, T.16 S., R.25 E., Crook County, Hydrologic Unit 17070303 on left bank 2 mi upstream from confluence with South Fork and 12 mi east of Paulina.

DRAINAGE AREA.--64.4 mi².

PERIOD OF RECORD.--January 1942 to September 1954. Prior to October 1945 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 3,848.83 ft above National Geodetic Vertical Datum of 1929 (survey by Bureau of Reclamation).

REMARKS.--Several small reservoirs upstream from station store water for irrigation and stock watering. Most of summer flow is diverted for irrigation 1,000 acres upstream from station.

AVERAGE DISCHARGE.--12 years (1942-54), 27.2 ft³/s, (19,690 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD. --Maximum discharge, 955 ft³/s Mar. 25, 1952, gage height, 5.85 ft, from rating curve extended above 330 ft³/s; no flow July 30 to Aug. 7, Aug. 19, 20, 1951.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1944-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	0.1	0.1	0.1	--	--	--
3	11	0.1	0.1	0.1	--	--	--
7	11	0.2	0.1	0.1	--	--	--
14	11	0.2	0.1	0.1	--	--	--
30	11	0.2	0.1	0.1	--	--	--
60	11	0.2	0.2	0.1	--	--	--
90	11	0.3	0.2	0.2	--	--	--
120	11	0.3	0.2	0.2	--	--	--
183	11	0.8	0.5	0.4	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	421	586	681	--	--	--
3	12	290	434	529	--	--	--
7	12	203	312	384	--	--	--
15	12	146	225	283	--	--	--
30	12	118	179	219	--	--	--
60	12	97	140	163	--	--	--
90	12	86	114	126	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1942-1954

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
474	608	780	888	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = -0.001

DESCHUTES RIVER BASIN

14078000 BEAVER CREEK NEAR PAULINA, OR

LOCATION.--Lat 44°09'50", long 119°55'20", in NE 1/4 sec.26, T.16 S., R.23 E., Crook County, Hydrologic Unit 17070303, on right bank 0.7 mi downstream from Paulina Creek, 1.7 mi downstream from Wolf Creek, 2.7 mi northeast of Paulina, and at mile 10.0.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--October 1942 to September 1975. Prior to October 1945 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 3,690 ft (by barometer). Oct. 1, 1942, to July 7, 1965 at datum 1.00 ft higher.

REMARKS.--No regulation. Diversions for irrigation upstream from station. Two small ditches divert upstream from station for irrigation below.

AVERAGE DISCHARGE.--33 years, 89.1 ft³/s, 64,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft³/s Dec. 22, 1964, gage height, 14.20 ft, from floodmark, present datum, from rating curve extended above 1,600 ft³/s, on basis of slope-area measurement of peak flow; no flow Oct. 13-29, 1945.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1946-1975

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	0.4	0.2	0.2	0.1	0.0	0.0
3	30	0.4	0.2	0.2	0.1	0.0	0.0
7	30	0.5	0.3	0.2	0.1	0.0	0.0
14	30	0.5	0.3	0.2	0.2	0.0	0.0
30	30	0.6	0.4	0.3	0.2	0.2	0.2
60	30	1.0	0.6	0.4	0.3	0.3	0.3
90	30	1.4	0.8	0.6	0.5	0.4	0.3
120	30	2.0	1.1	0.8	0.7	0.5	0.4
183	30	4.9	2.7	2.0	1.5	1.1	0.8

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1975

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	33	1140	2040	2740	3720	4510	5340
3	33	901	1640	2210	3020	3680	4380
7	33	682	1210	1590	2090	2480	2870
15	33	505	867	1120	1440	1680	1920
30	33	389	645	812	1020	1160	1290
60	33	290	471	588	729	826	919
90	33	247	394	485	588	656	719

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1943-1975

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
730	1370	2750	4060	6270	8390	11000	

Systematic n = 33 historical n = 0
Weighted skew = 0.333

DESCHUTES RIVER BASIN

14078500 NORTH FORK CROOKED RIVER ABOVE DEEP CREEK, OR

LOCATION.--Lat 44°19'55", long 120°04'55", in NE 1/4 sec.28, T.14 S., R.22 E., Crook County, Hydrologic Unit 17070304, on left bank 0.8 mi upstream from Deep Creek, 15 mi northwest of Paulina, and 38 mi east of Prineville.

DRAINAGE AREA.--159 mi².

PERIOD OF RECORD.--November 1941 to December 1942, October 1943 to September 1954. Prior to October 1945 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 4,356.00 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Oct. 1, 1946, at datum 0.33 ft higher.

REMARKS.--No regulation. Several diversions for irrigation of about 3,600 acres upstream from station.

AVERAGE DISCHARGE.--11 years (water years 1943-54), 97.0 ft³/s, 70,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s Apr. 7, 1943, gage height, 4.17 ft, from rating curve extended above 950 ft³/s; maximum gage height, 8.01 ft, last used datum, Jan. 1, 1943 (ice jam); minimum discharge, 0.5 ft³/s Aug. 14, 15, 1942, Aug. 3 to Sept. 24, 1951.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1945-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	1.0	0.7	0.6	--	--	--
3	10	1.0	0.7	0.6	--	--	--
7	10	1.1	0.7	0.6	--	--	--
14	10	1.2	0.7	0.6	--	--	--
30	10	1.3	0.8	0.6	--	--	--
60	10	1.5	0.9	0.7	--	--	--
90	10	1.7	1.1	0.9	--	--	--
120	10	2.3	1.5	1.2	--	--	--
183	10	7.2	3.8	2.7	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1944-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	941	1360	1570	--	--	--
3	11	826	1210	1420	--	--	--
7	11	704	1030	1220	--	--	--
15	11	567	848	1020	--	--	--
30	11	460	679	819	--	--	--
60	11	376	539	634	--	--	--
90	11	300	422	490	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1943-1954

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1100	1420	1830	2090	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = 0.000

DESCHUTES RIVER BASIN

14079500 CROOKED RIVER NEAR POST, OR

LOCATION.--Lat 44°07'00", long 120°15'00", in NE 1/4 sec. 7, T.17 S., R.21 E., Crook County, Hydrologic Unit 17070304, on left bank 0.3 mi downstream from North Fork, 12 mi southeast of Post, and at mile 113.7.

DRAINAGE AREA.--2,160 mi², approximately, of which 500 mi² is probably noncontributing.

PERIOD OF RECORD.--November 1908 to May 1911, December 1939 to September 1960, July 1968 to July 1973. Records for June to August 1911, published in WSP 312, have been found unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 3,476.25 ft above National Geodetic Vertical Datum of 1929. Nov. 9, 1908, to Aug. 31, 1911, nonrecording gage at site 0.2 mi downstream at different datum. Dec. 30, 1939, to Sept. 30, 1960, water-stage recorder at site .7 mi downstream at different datum.

REMARKS.--No regulation. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--24 years (water years 1941-60, 1969-72), 337 ft³/s, 244,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s Jan. 18, 1971, gage height, 9.61 ft, from rating curve extended above 4,800 ft³/s, on basis of slope-area measurement of peak flow; minimum, 2.7 ft³/s Aug. 7, 1970.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	8.7	5.9	4.7	3.8	3.0	--
3	24	9.1	6.2	5.0	4.1	3.3	--
7	24	9.8	6.8	5.5	4.6	3.7	--
14	24	10	7.3	6.0	5.1	4.2	--
30	24	11	8.1	6.8	5.8	4.9	--
60	24	14	10	8.7	7.8	7.0	--
90	24	17	13	11	10	9.2	--
120	24	23	17	15	13	11	--
183	24	44	33	29	26	24	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	3170	5270	6790	8810	10400	12000
3	25	2730	4340	5420	6760	7750	8700
7	25	2260	3400	4120	4950	5530	6070
15	25	1830	2700	3230	3830	4230	4600
30	25	1450	2090	2480	2910	3200	3470
60	25	1130	1570	1810	2070	2220	2360
90	25	943	1290	1480	1660	1770	1870

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1972

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2410	4000	6560	8450	11000	13100	15200	

Systematic n = 25 historical n = 0
Weighted skew = -0.086

DESCHUTES RIVER BASIN

14080500 CROOKED RIVER NEAR PRINEVILLE, OR

LOCATION.--Lat $44^{\circ}06'50''$, long $120^{\circ}47'40''$, in SW 1/4 NE 1/4 sec.10, T.17 S., R.16 E., Crook County, Hydrologic Unit 17070304, on right bank 0.4 mi downstream from Prineville Dam, 13.6 mi south of Prineville, and at mile 72.1.

DRAINAGE AREA.--2,700 mi², approximately, of which 500 mi² is probably noncontributing.

PERIOD OF RECORD.--November 1908 to September 1914, March 1941 to 1987. Published as "near Prineville" 1908-12, as "at Hoffman's ranch, near Prineville" 1913-14, and as "above Hoffman Dam, near Prineville" March 1941 to September 1960. The estimate of monthly mean discharge for October 1908, published in WSP 370, has been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1448: 1909-13, 1914(M), drainage area (at sites prior to Apr. 24, 1961). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,070.85 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to September 1914, nonrecording gage at several sites from 9 mi to 23 mi downstream at various datums. Mar. 26, 1941, to Apr. 23, 1961, water-stage recorder at site 5.5 mi downstream at different datum.

REMARKS.--Flow completely regulated since December 1960 by Prineville Reservoir (station 14080400). Diversions for irrigation upstream from station. Discharge not adjusted for storage or release from Prineville Reservoir as evaporation from reservoir at times exceeds natural flow.

AVERAGE DISCHARGE.--24 years (water years 1910-14, 1942-60), 378 ft³/s, 273,900 acre-ft/yr; 27 years (water years 1961-87), 374 ft³/s, 271,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,410 ft³/s Mar. 26, 1952, gage height, 8.2 ft, from floodmark, site and datum then in use; no flow Aug. 13-21, 1959, Jan. 3-5, 1961.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1943-1959

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	4.2	1.9	1.2	0.8	--	--
3	17	4.5	2.1	1.5	1.1	--	--
7	17	4.9	2.5	1.8	1.4	--	--
14	17	5.5	3.0	2.2	1.7	--	--
30	17	6.9	3.7	2.7	2.1	--	--
60	17	10	5.4	3.8	2.8	--	--
90	17	15	9.1	7.0	5.6	--	--
120	17	23	16	13	11	--	--
183	17	49	36	31	28	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1942-1959

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	3360	5140	6190	7350	--	--
3	18	2910	4430	5310	6280	--	--
7	18	2460	3680	4380	5150	--	--
15	18	2000	3100	3790	4590	--	--
30	18	1600	2460	2990	3610	--	--
60	18	1310	1910	2240	2570	--	--
90	18	1100	1590	1850	2110	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1942-1959

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2330	3640	5670	7160	9170	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.000

DESCHUTES RIVER BASIN
14080500 CROOKED RIVER NEAR PRINEVILLE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 5%	50 2%	100 1%
1	26	21	12	8.8	7.0	5.3	4.4
3	26	23	13	9.1	7.1	5.5	4.5
7	26	25	14	9.8	7.5	5.5	4.8
14	26	31	16	12	8.7	6.2	4.9
30	26	50	25	17	12	8.5	6.6
60	26	75	40	29	22	16	13
90	26	103	60	45	35	25	21
120	26	121	76	58	46	35	29
183	26	153	111	95	84	73	67

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	2020	3200	3650	3970	4090	4160
3	27	1950	3110	3570	3890	4020	4100
7	27	1770	2910	3400	3780	3960	4070
15	27	1500	2520	3010	3420	3620	3760
30	27	1160	2010	2470	2910	3150	3340
60	27	858	1520	1920	2370	2660	2920
90	27	729	1270	1620	2020	2290	2540

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14087400 CROOKED RIVER BELOW OPAL SPRINGS, NEAR CULVER, OR

LOCATION.--Lat $44^{\circ}29'33''$, long $121^{\circ}17'50''$, in NW 1/4 NE 1/4 sec.33, T.12 S., R.12 E., Jefferson County, Hydrologic Unit 17070305, on right bank 0.2 mi downstream from Opal Springs, 4.8 mi southwest of Culver, and at mile 6.7.

DRAINAGE AREA.--4,300 mi², approximately, of which 500 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1961 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,953.60 ft above National Geodetic Vertical Datum of 1929 (Portland General Electric Co. bench mark).

REMARKS.--Flow regulated since December 1960 by Prineville Reservoir (station 14080400) and Ochoco Reservoir, capacity, 47,500 acre-ft. Dam and powerplant 500 ft upstream, completed in 1985, causes brief fluctuations in flow. Many diversions for irrigation upstream from station. Practically all of the summer flow comes from Opal Springs and other springs within 15 mi upstream from station. Simultaneous records (1961-63) at former gaging station 5.6 mi downstream indicated over 15 percent increase to summer flow from springs downstream from this station.

AVERAGE DISCHARGE.--26 years, 1,609 ft³/s, 1,166,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft³/s Dec. 24, 1964, gage height, 9.36 ft; minimum daily discharge, 1,090 ft³/s May 11, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	1180	1130	1110	1100	1080	1070
3	25	1180	1140	1120	1100	1080	1070
7	25	1190	1140	1120	1110	1090	1080
14	25	1200	1160	1130	1120	1100	1080
30	25	1230	1170	1150	1130	1110	1090
60	25	1250	1190	1160	1140	1110	1090
90	25	1270	1200	1170	1140	1110	1100
120	25	1290	1220	1190	1170	1140	1130
183	25	1330	1260	1230	1210	1190	1180

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	3590	4740	5380	6050	6490	6870
3	26	3510	4650	5280	5960	6400	6780
7	26	3340	4460	5090	5800	6270	6690
15	26	3640	4050	4640	5330	5810	6260
30	26	2670	3530	4090	4770	5260	5750
60	26	2250	2990	3500	4180	4710	5260
90	26	2090	2710	3140	3700	4130	4570

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14087500 CROOKED RIVER NEAR CULVER, OR

LOCATION.--Lat 44°33'40", long 121°16'10", in sec.3 (50 ft west of 1/4-corner on line between sec.2 and 3), T.12 S., R.12 E., Jefferson County, Hydrologic Unit 17070305, on right bank 1 mi upstream from mouth, 1.2 mi downstream from Cove powerplant, and 4 mi northwest of Culver.

DRAINAGE AREA.--4,330 mi², approximately, of which 500 mi is probably noncontributing.

PERIOD OF RECORD.--October 1917 to September 1963.

GAGE.--Water-stage recorder. Datum of gage is 1,664.86 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 2, 1945, staff gage at several sites within 1.2 mi of present site at various datums.

REMARKS.--Flow slightly regulated (since 1919) by Ochoco Reservoir (capacity, 47,500 acre-ft) and since Dec. 13, 1960, by Prineville Reservoir (capacity, 152,800 acre-ft); occasional diurnal fluctuation caused by powerplant 1.2 mi upstream from station. Water is diverted for irrigation of land upstream from station. The area served increased from about 30,000 acres in 1918 to 37,000 acres in 1946. Several hundred cubic feet per second of water diverted from Deschutes River for irrigation of other lands upstream from station. Opal Springs and several other springs within about 17 mi upstream from station contribute about 1,000 ft³/s to flow.

AVERAGE DISCHARGE.--46 years, 1,553 ft³/s, 1,124,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 8,260 ft³/s Mar. 30, 31, 1943, gage height, 6.70 ft, site and datum then in use; minimum recorded, 920 ft³/s Oct. 14, 1945.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1946-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	15	1310	1270	1240	1220	--	--	
3	15	1310	1270	1240	1220	--	--	
7	15	1310	1270	1250	1230	--	--	
14	15	1320	1280	1250	1230	--	--	
30	15	1330	1290	1270	1240	--	--	
60	15	1350	1310	1280	1260	--	--	
90	15	1360	1320	1290	1270	--	--	
120	15	1380	1330	1310	1280	--	--	
183	15	1400	1360	1340	1320	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1920-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	41	4340	5980	7000	8210	9060	9860	
3	41	3970	5490	6450	7610	8450	9260	
7	41	3510	4750	5530	6460	7120	7770	
15	41	3080	4110	4780	5600	6200	6790	
30	41	2690	3500	4030	4690	5180	5670	
60	41	2360	2980	3370	3840	4180	4510	
90	41	2160	2690	3020	3420	3710	4000	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1919-1960

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
, 3170	4510	6280	7410	8770	9750	10700	

Systematic n = 42 historical n = 0
Weighted skew = -0.228

DESCHUTES RIVER BASIN

14088000 LAKE CREEK NEAR SISTERS, OR

LOCATION.--Lat $44^{\circ}25'35''$, long $121^{\circ}43'30''$, in NE 1/4 SW 1/4 sec.24, T.13 S., R.8 E., Deschutes County, Hydrologic Unit 17070301, on left bank 300 ft downstream from Suttle Lake and 13 mi northwest of Sisters.

DRAINAGE AREA.--22.2 mi².

PERIOD OF RECORD.--June to November 1911, March to September 1912, May to October 1913, April 1915 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1124: 1943, 1947. WSP 1218: Drainage area. WSP 1448: 1916(M), 1925. WDR OR-81-1: 1974(M), 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 3,431.68 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1916, nonrecording gage at two sites 400 ft upstream at different datums. Apr. 1, 1916, to Oct. 12, 1928, nonrecording gage or water-stage recorder at site 640 ft downstream at different datum. Oct. 13, 1928, to Aug. 13, 1967, water-stage recorder at site 600 ft downstream at datum 1.61 ft lower.

REMARKS.--Flow occasionally regulated by Suttle Lake 150 ft upstream from station.

AVERAGE DISCHARGE.--72 years (water years 1916-87), 52.5 ft³/s, 38,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded discharge, 446 ft³/s Dec. 15, 1977, gage height, 4.78 ft, but may have been higher during period of no gage-height record Dec. 23, 1964; minimum discharge, 1.0 ft³/s Nov. 4, 5, 1940; minimum daily, 8 ft³/s Nov. 5, 1940, Oct. 6, 1942.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1919-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	68	27	20	16	13	9.8	7.9
3	68	27	22	19	16	13	11
7	68	28	24	21	18	16	14
14	68	29	25	22	20	18	16
30	68	30	25	23	21	19	18
60	68	31	26	24	22	20	19
90	68	31	27	25	23	21	20
120	68	32	28	25	24	22	20
183	68	36	30	28	26	24	23

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1918-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	68	150	231	290	373	439	510
3	68	145	220	274	348	406	468
7	68	135	194	232	281	317	352
15	68	120	160	183	211	229	246
30	68	104	133	149	167	179	190
60	68	89	108	118	128	134	139
90	68	79	95	102	109	113	117

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1915-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
116	165	242	299	378	441	509	

Systematic n = 69 historical n = 0
Weighted skew = 0.256

DESCHUTES RIVER BASIN

14091500 METOLIUS RIVER NEAR GRANDVIEW, OR

LOCATION.--Lat 44°37'33", long 121°28'55", in SE 1/4 SW 1/4 sec.12, T.11 S., R.10 E., Jefferson County, Hydrologic Unit 17070301, Deschutes National Forest, on right bank 1.0 mi upstream from maximum controlled pool of Lake Billy Chinook, 15.0 mi northwest of Culver, and at mile 13.6.

DRAINAGE AREA.--316 mi², at cableway 1.0 mi downstream, where all discharge measurements are made. Hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--April 1910 to February 1912 (gage heights and discharge measurements only), March 1912 to December 1913, October 1921 to 1987. Published as "at Hubbard's ranch, near Sisters" 1910, and as "at Hubbard's ranch, near Grandview" 1910-13.

REVISED RECORDS.--WSP 1448: 1913.

GAGE.--Water-stage recorder. Datum of gage is 1,974.36 ft above National Geodetic Vertical Datum of 1929 (levels by Portland General Electric Co.). Prior to Dec. 31, 1913, nonrecording gage at site 2.3 mi upstream at different datum. Oct. 1, 1921, to May 3, 1949, nonrecording gage and May 4, 1949, to June 18, 1963, water-stage recorder at site 2.7 mi downstream at datum 64 ft lower.

REMARKS.--No regulation. Many small diversions for irrigation upstream from station. Stream is spring fed. Records herein are for measuring site.

AVERAGE DISCHARGE.--67 years (water years 1913, 1922-87), 1,497 ft³/s, 1,085,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,530 ft³/s Dec. 24, 1964, gage height, 6.81 ft; minimum discharge, 1,080 ft³/s Feb. 17, 1932, Oct. 2-31, Nov. 6, 7, 10-14, 1942.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	66	1280	1190	1140	1100	1060	1030
3	66	1290	1200	1150	1110	1060	1030
7	66	1290	1200	1150	1110	1070	1040
14	66	1300	1210	1160	1120	1070	1040
30	66	1310	1220	1170	1130	1080	1050
60	66	1330	1230	1180	1140	1090	1060
90	66	1340	1240	1190	1150	1100	1070
120	66	1350	1250	1200	1160	1110	1080
183	66	1380	1270	1220	1180	1130	1100

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	67	2410	3200	3800	4630	5320	6060
3	67	2220	2910	3430	4170	4790	5450
7	67	2050	2580	2970	3500	3920	4370
15	67	1910	2290	2540	2860	3100	3350
30	67	1800	2080	2240	2440	2580	2710
60	67	1720	1930	2050	2180	2280	2360
90	67	1670	1850	1950	2050	2120	2180

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1922-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1990	2600	3540	4230	5190	5960	6780	

Systematic n = 66 historical n = 0
Weighted skew = 0.493

DESCHUTES RIVER BASIN

14092500 DESCHUTES RIVER NEAR MADRAS, OR

LOCATION.--Lat 44°43'34", long 121°14'45", in SE 1/4 SW 1/4 sec.1, T.10 S., R.12 E., Jefferson County, Hydrologic Unit 17070306, on right bank 400 ft downstream from reregulating dam, 2.7 mi downstream from Pelton Dam, 8.5 mi northwest of Madras, and at mile 100.1.

DRAINAGE AREA.--7,820 mi², approximately.

PERIOD OF RECORD.--October 1923 to 1987.

REVISED RECORDS.--WSP 1398: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,390.25 ft above National Geodetic Vertical Datum of 1929 (levels by Portland General Electric Co.). See WSP 1738 for history of changes prior to Nov. 23, 1957.

REMARKS.--Diurnal fluctuation caused by Lake Sintustus and reregulating reservoir since 1957, combined capacity for normal operation, 6,500 acre-ft. Some winter and spring runoff stored in Ochoco Reservoir, capacity, 47,500 acre-ft, in Crescent Lake, Crane Prairie and Wickup Reservoirs, combined capacity, 354,600 acre-ft, and since 1960, in Prineville Reservoir, capacity, 152,800 acre-ft, and since 1964, in Lake Billy Chinook, capacity, 534,700 acre-ft. Large diversions in upper basin for irrigation.

AVERAGE DISCHARGE.--64 years, 4,553 ft³/s, 3,299,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s July 16, 1983, accidental release from Pelton Dam, gage height, 7.70 ft, from floodmarks; minimum discharge, 916 ft³/s July 4, 1982, caused by power company testing control gates on dam.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	31	3400	3190	3100	3030	2960	2910
3	31	3410	3200	3110	3040	2960	2920
7	31	3420	3210	3120	3040	2970	2920
14	31	3440	3220	3120	3050	2970	2930
30	31	3460	3230	3130	3060	2980	2930
60	31	3500	3250	3140	3060	2980	2930
90	31	3540	3280	3160	3070	2980	2930
120	31	3580	3310	3190	3100	3000	2930
183	31	3730	3420	3280	3180	3060	2990

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	32	7760	9780	11100	12800	14100	15400
3	32	7420	9310	10600	12200	13400	14700
7	32	6900	8470	9510	10800	11800	12800
15	32	6340	7710	8650	9870	10800	11800
30	32	5890	7050	7840	8870	9660	10500
60	32	5540	6480	7100	7880	8460	9030
90	32	5310	6140	6690	7380	7890	8400

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14092500 DESCHUTES RIVER NEAR MADRAS, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	3330	3060	2930	2840	2730	--
3	23	3420	3160	3030	2930	2830	--
7	23	3530	3270	3140	3040	2930	--
14	23	3700	3420	3270	3150	3010	--
30	23	3900	3620	3460	3310	3140	--
60	23	3970	3680	3510	3360	3180	--
90	23	4020	3710	3530	3370	3190	--
120	23	4070	3740	3550	3390	3190	--
183	23	4150	3800	3610	3460	3280	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	8360	10600	12100	14200	15700	--
3	24	8180	10300	11700	13600	15000	--
7	24	7790	9680	10900	12500	13700	--
15	24	7160	8860	10000	11500	12600	--
30	24	6560	8020	9010	10300	11200	--
60	24	6010	7180	7970	8970	9740	--
90	24	5810	6800	7420	8190	8740	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

DESCHUTES RIVER BASIN

14092885 SHITIKE CREEK BELOW WOLFORD CANYON, NEAR WARM SPRINGS, OR

LOCATION.--Lat 44°46'20", long 121°18'15", in NW 1/4 SE 1/4 sec.21, T.9 S., R.12 E., Jefferson County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on left bank at bridge crossing 2.3 mi upstream from Tenino Creek, and 2.1 mi northwest of Warm Springs.

DRAINAGE AREA.--75.8 mi².

PERIOD OF RECORD.--October 1974 to 1987. Records for June 1911 to October 1916, April 1923 to September 1928, and October 1972 to September 1974 (station 14093000) at sites downstream not equivalent owing to difference in drainage areas.

GAGE.--Water-stage recorder. Elevation of gage is 1,600 ft, from topographic map.

REMARKS.--No regulation. Some diversion for irrigation and Warm Springs water supply.

AVERAGE DISCHARGE.--13 years, 98.1 ft³/s, 17.58 in/yr, 71,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft³/s Feb. 23, 1986, gage height, 6.40 ft, from rating curve extended above 860 ft³/s; maximum gage height, 7.35 ft Dec. 13, 1977; minimum daily discharge, 17 ft³/s Oct. 12-15, 17-22, 24-27, Nov. 12, 1978.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	37	28	23	--	--	--
3	12	39	29	24	--	--	--
7	12	40	29	24	--	--	--
14	12	41	30	24	--	--	--
30	12	43	31	25	--	--	--
60	12	47	34	28	--	--	--
90	12	50	37	31	--	--	--
120	12	53	39	32	--	--	--
183	12	62	47	41	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13	499	869	1140	--	--	--
3	13	420	716	935	--	--	--
7	13	334	542	692	--	--	--
15	13	264	397	487	--	--	--
30	13	214	300	350	--	--	--
60	13	177	227	251	--	--	--
90	13	159	200	218	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1975-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
320	619	1200	1700	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = 0.009

DESCHUTES RIVER BASIN

14093000 SHITIKE CREEK NEAR WARM SPRINGS, OR

LOCATION.--Lat 44°45'41", long 121°13'57", in NW 1/4 NW 1/4 sec.30, T.9 S., R.13 E., Jefferson County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on left bank 1.9 mi east of Warm Springs and at mile 0.3.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--October 1911 to September 1916, October 1923 to September 1928, October 1972 to September 1974.

GAGE.--Nonrecording gage. Elevation of gage is 1,380 ft, from topographic map.

REMARKS.--No regulation. Some water is diverted for mill pond at point 0.3 mi upstream from station.

AVERAGE DISCHARGE.--12 years, 110 ft³/s, 79,695 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,300 ft³/s Jan. 15, 1974; minimum daily, 20 ft³/s Dec. 8-15, 1972.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1974

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	482	867	1240	--	--	--
3	12	388	703	1000	--	--	--
7	12	313	534	735	--	--	--
15	12	237	367	480	--	--	--
30	12	192	271	332	--	--	--
60	12	162	219	260	--	--	--
90	12	152	197	229	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1912-1974

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
308	539	943	1260	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.007

DESCHUTES RIVER BASIN

14097100 WARM SPRINGS RIVER NEAR KAHNEETA HOT SPRINGS, OR

LOCATION.--Lat $44^{\circ}51'24''$, long $121^{\circ}08'55''$, in SE 1/4 SW 1/4 sec.23, T.8 S., R.13 E., Wasco County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on right bank 25 ft upstream from bridge, 2.5 mi east of Kahneeta Hot Springs, and at mile 4.6.

DRAINAGE AREA.--526 mi².

PERIOD OF RECORD.--October 1972 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft, from topographic map.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--15 years, 453 ft³/s, 11.70 in/yr, 328,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,240 ft³/s Feb. 23, 1986, gage height, 10.54 ft; minimum daily discharge, 160 ft³/s Jan. 1, 2, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	14	237	204	187	173	--	--	
3	14	242	210	192	178	--	--	
7	14	244	214	198	185	--	--	
14	14	246	218	203	191	--	--	
30	14	250	224	210	200	--	--	
60	14	255	230	218	208	--	--	
90	14	259	235	223	213	--	--	
120	14	263	238	225	215	--	--	
183	14	283	251	236	225	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1973-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	15	2560	4640	5970	7510	--	--	
3	15	2050	3730	4910	6390	--	--	
7	15	1560	2790	3670	4840	--	--	
15	15	1200	1950	2470	3130	--	--	
30	15	961	1450	1770	2160	--	--	
60	15	794	1110	1300	1520	--	--	
90	15	731	981	1120	1270	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1973-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1490	2940	5790	8260	12100	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = 0.003

DESCHUTES RIVER BASIN

14097200 WHITE RIVER NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°10'40", long 121°34'30", in NE 1/4 SW 1/4 sec.32, T.4 S., R.10 E., Wasco County, Hydrologic Unit 17070306, in Mount Hood National Forest, on left bank at Faith Spring, 1.4 mi upstream from Klip Creek, and at mile 33.3.

DRAINAGE AREA.--40.7 mi².

PERIOD OF RECORD.--July 1969 to October 1979, July 1980 to September 1981.

GAGE.--Water-stage recorder. Elevation of gage is 2,740 ft from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--11 years, 165 ft³/s, 55.05 in/yr, 119,500 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft³/s Dec. 13, 1977, gage height, 6.63 ft; minimum, 20 ft³/s Jan. 6, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1971-1979

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1970-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	11	1200	1780	2040	--	--	--	--
3	11	915	1300	1480	--	--	--	--
7	11	711	911	987	--	--	--	--
15	11	544	700	768	--	--	--	--
30	11	428	570	642	--	--	--	--
60	11	336	438	491	--	--	--	--
90	11	292	376	417	--	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1970-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
575	1210	2560	3780	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.005

DESCHUTES RIVER BASIN

14101500 WHITE RIVER BELOW TYGH VALLEY, OR

LOCATION.--Lat $45^{\circ}14'30''$, long $121^{\circ}05'38''$, in NE 1/4 NE 1/4 sec.7, T.4 S., R.14 E., Wasco County, Hydrologic Unit 17070306, on left bank 200 ft downstream from former Pacific Power & Light Co. powerplant at White River Falls, 3.9 mi east of town of Tygh Valley, and at mile 2.0.

DRAINAGE AREA.--417 mi².

PERIOD OF RECORD.--October 1917 to 1987.

REVISED RECORDS.--WSP 1448: 1920, 1923, 1927-28, drainage area. WSP 1935: 1956.

GAGE.--Water-stage recorder. Datum of gage is 870.15 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.). Prior to July 28, 1931, at site 750 ft downstream at different datum. July 28, 1931, to Sept. 30, 1954, at site 700 ft downstream at different datums.

REMARKS.--Diversions upstream from station for irrigation, and prior to 1963 for power generation.

AVERAGE DISCHARGE.--70 years, 426 ft³/s, 308,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s Jan. 6, 1923, gage height, about 13.3 ft, site and datum then in use, from rating curve extended above 5,000 ft³/s; minimum discharge, 7.5 ft³/s Aug. 31, 1961, result of fluctuation caused by regulation.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1919-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
		1	69	107	91	82	76	69
	3	69	108	92	84	77	70	66
	7	69	110	94	86	79	72	67
	14	69	113	97	89	83	76	72
	30	69	118	102	94	87	81	77
	60	69	124	107	99	92	85	80
	90	69	130	111	103	96	88	84
	120	69	139	118	108	101	93	89
	183	69	180	142	128	117	107	101

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1918-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
	1	70	2540	4290	5560	7230	8510	9810
	3	70	2150	3520	4500	5790	6780	7790
	7	70	1720	2640	3240	4000	4550	5090
	15	70	1370	1950	2290	2680	2940	3170
	30	70	1140	1520	1700	1890	2000	2090
	60	70	948	1220	1350	1470	1540	1590
	90	70	838	1060	1160	1240	1290	1320

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1918-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1750	3040	5260	7010	9510	11600	13800	

Systematic n = 70 historical n = 0
Weighted skew = -0.016

DESCHUTES RIVER BASIN

14103000 DESCHUTES RIVER AT MOODY, NEAR BIGGS, OR

LOCATION.--Lat $45^{\circ}37'20''$, long $120^{\circ}54'05''$, in SW 1/4 SE 1/4 sec.26, T.2 N., R.15 E., Sherman County, Hydrologic Unit 17070306, on right bank at Moody, 4.0 mi southwest of Biggs, and at mile 1.4.

DRAINAGE AREA.--10,500 mi², approximately.

PERIOD OF RECORD.--October 1897 to December 1899 (published as "near Moro"), July 1906 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 754: drainage area.

GAGE.--Water-stage recorder. Datum of gage is 167.54 ft above National Geodetic Vertical Datum of 1929. Oct. 19, 1897, to Dec. 31, 1899, nonrecording gage at site 10 mi upstream at different datum. July 22, 1906, to July 18, 1930, nonrecording gage at site 300 ft downstream at datum 0.50 ft lower.

REMARKS.--Some fluctuation caused by regulation at Lake Simtustus since 1957. Some winter and spring runoff stored in Ochoco Reservoir since 1919, capacity, 46,420 acre-ft, in Crescent Lake, Crane Prairie since 1922, and Wickup Reservoirs since 1944, combined capacity, 323,390 acre-ft, and since 1960, in Prineville Reservoir (station 14080400), and since 1964 in Lake Billy Chinook (station 14092100). Large diversions in upper river basin for irrigation.

AVERAGE DISCHARGE.--83 years, 5,869 ft³/s, 4,252,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,500 ft³/s Dec. 22, 1964, gage height, 11.80 ft, from rating curve extended above 47,000 ft³/s; minimum discharge, 2,400 ft³/s Dec. 5, 1957.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1899-1919

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	4670	4160	3900	--	--	--
3	13	4670	4160	3900	--	--	--
7	13	4740	4240	3980	--	--	--
14	13	4850	4330	4050	--	--	--
30	13	4930	4420	4120	--	--	--
60	13	4980	4490	4200	--	--	--
90	13	5040	4540	4250	--	--	--
120	13	5110	4610	4310	--	--	--
183	13	5300	4800	4510	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1898-1919

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	15600	21100	25200	30800	--	--
3	15	14100	18800	22500	27600	--	--
7	15	12400	15900	18600	22400	--	--
15	15	11100	13500	15200	17600	--	--
30	15	10000	11800	13100	14700	--	--
60	15	9270	10700	11600	12600	--	--
90	15	8710	10200	11000	12100	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1898-1919

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
12100	16200	21800	25500	30100	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = 0.000

DESCHUTES RIVER BASIN

14103000 DESCHUTES RIVER AT MOODY, NEAR BIGGS, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	3900	3620	3490	3380	3260	--
3	22	3970	3690	3550	3440	3330	--
7	22	4080	3800	3660	3550	3430	--
14	22	4190	3960	3850	3770	3680	--
30	22	4330	4090	3970	3880	3790	--
60	22	4410	4150	4030	3930	3830	--
90	22	4480	4190	4060	3950	3830	--
120	22	4570	4260	4110	4000	3880	--
183	22	4790	4420	4250	4120	3980	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	13600	21600	29300	42300	55200	--
3	23	12400	19100	25300	35400	45100	--
7	23	11300	16500	21000	27900	34200	--
15	23	10300	14100	16900	21000	24400	--
30	23	9250	12000	13900	16500	18500	--
60	23	8310	10400	11800	13600	15100	--
90	23	7920	9640	10700	12100	13100	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

MOSIER CREEK BASIN

14113200 MOSIER CREEK NEAR MOSIER, OR

LOCATION.--Lat 45°38'55", long 121°22'35", in NW 1/4 NW 1/4 sec.19, T.2 N., R.12 E., Wasco County, Hydrologic Unit 17070105, on left bank 0.1 mi downstream from West Fork Mosier Creek, 2.5 mi southeast of Mosier, and at mile 3.0.

DRAINAGE AREA.--41.5 mi².

PERIOD OF RECORD.--April 1963 to September 1981.

GAGE.--Water-stage recorder. Elevation of gage is 425 ft, from topographic map. Prior to July 22, 1976, water-stage recorder at site 20 ft upstream at datum 3.57 ft higher. July 22, 1976, to Dec. 12, 1977, water-stage recorder at site 20 ft upstream at datum 1.57 ft higher.

REMARKS.--No regulation. Several small pumping diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--18 years, 28.5 ft³/s, 20,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,790 ft³/s Dec. 23, 1964, gage height, 8.9 ft, from flood profile, from rating curve extended above 1,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.35 ft³/s July 25, 26, Aug. 6, 7, 1978.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	1.1	0.7	0.6	0.5	--	--
3	17	1.1	0.8	0.6	0.5	--	--
7	17	1.2	0.8	0.6	0.5	--	--
14	17	1.2	0.9	0.7	0.6	--	--
30	17	1.3	0.9	0.8	0.7	--	--
60	17	1.5	1.2	1.1	1.0	--	--
90	17	1.7	1.4	1.3	1.2	--	--
120	17	1.9	1.7	1.5	1.4	--	--
183	17	2.8	2.4	2.1	2.0	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	602	1150	1380	1540	--	--
3	18	462	802	923	999	--	--
7	18	333	521	573	599	--	--
15	18	228	336	363	376	--	--
30	18	156	206	215	218	--	--
60	18	113	157	168	173	--	--
90	18	93	131	140	145	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
292	689	1630	2550	4120	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.001

HOOD RIVER BASIN

14113400 DOG RIVER NEAR PARKDALE, OR

LOCATION.--Lat $45^{\circ}24'30''$, long $121^{\circ}31'10''$, in SW 1/4 sec.11, T.2 S., R.10 E., Hood River County, Hydrologic Unit 17070105, Mount Hood National Forest, on right bank 100 ft upstream from city of The Dalles municipal diversion to Mill Creek basin, and 8.8 mi south of Parkdale.

DRAINAGE AREA.--4.50 mi².

PERIOD OF RECORD.--October 1959 to September 1971.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,347 ft above National Geodetic Vertical Datum of 1929 (levels by city of The Dalles).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years, 7.09 ft³/s, 21.40 in/yr, 5,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100 ft³/s May 29, 1969, gage height, 3.92 ft, from rating curve extended above 30 ft³/s; minimum, 0.03 ft³/s Dec. 1, 1967, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1971

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	1.4	0.4	0.2	--	--	--
3	10	1.5	0.6	0.3	--	--	--
7	10	1.7	1.1	0.8	--	--	--
14	10	1.9	1.5	1.4	--	--	--
30	10	2.1	1.9	1.8	--	--	--
60	10	2.2	2.1	2.0	--	--	--
90	10	2.5	2.2	2.1	--	--	--
120	10	2.7	2.3	2.1	--	--	--
183	10	3.2	2.6	2.4	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1971

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	31	46	58	--	--	--
3	11	28	42	53	--	--	--
7	11	25	37	47	--	--	--
15	11	22	32	41	--	--	--
30	11	19	28	36	--	--	--
60	11	16	22	27	--	--	--
90	11	13	18	22	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1960-1971

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
25	35	52	64	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.153

HOOD RIVER RIVER BASIN

14118500 WEST FORK HOOD RIVER NEAR DEE, OR

LOCATION.--Lat 45°35'55", long 121°38'05", in SE 1/4 sec.1, T.1 N., R.9 E., Hood River County, Hydrologic Unit 17070105, on left bank 0.3 mi upstream from Dead Point Creek, 0.8 mi northwest of Dee, and at mile 0.4.

DRAINAGE AREA.--95.6 mi².

PERIOD OF RECORD.--September 1913 to February 1916 (incomplete), June 1932 to 1987.

REVISED RECORDS.--WDR OR-80-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 802.1 ft above National Geodetic Vertical Datum of 1929. Sept. 1, 1913, to Feb. 12, 1916, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No regulation. Dee Irrigation District canal diverts from right bank about 6 mi upstream from station for irrigation upstream from station and in Middle Fork Basin. Diversions from Green Point Creek basin upstream from station for irrigation near Oak Grove; water from two of these diversions is carried in Hood River Irrigation District canal.

AVERAGE DISCHARGE.--56 years (water years 1914, 1933-87), 554 ft³/s, 401,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, Dec. 22, 1964, gage height, 27.0 ft, from floodmarks; maximum daily discharge, 15,000 ft³/s Dec. 23, 1964; minimum, 93 ft³/s Aug. 22, 1941.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	54	131	116	108	103	97	93	
3	54	132	117	109	104	97	94	
7	54	135	119	111	105	99	95	
14	54	139	122	114	108	101	97	
30	54	146	127	118	111	103	98	
60	54	158	135	125	117	108	103	
90	54	170	143	132	123	115	110	
120	54	191	157	143	133	123	118	
183	54	271	214	190	173	157	147	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	55	5030	7270	8640	10200	11300	12300	
3	55	3590	5250	6350	7740	8770	9800	
7	55	2530	3610	4300	5150	5750	6340	
15	55	1830	2480	2880	3330	3640	3930	
30	55	1400	1860	2130	2430	2630	2820	
60	55	1120	1430	1600	1790	1920	2040	
90	55	1010	1250	1370	1500	1580	1650	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1933-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4770	6790	9770	11900	14600	16800	19100	

Systematic n = 55 historical n = 0
Weighted skew = 0.103

HOOD RIVER RIVER BASIN

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

LOCATION.--Lat 45°39'20", long 121°32'50", in SE 1/4 sec.15, T.2 N., R.10 E., Hood River County, Hydrologic Unit 17070105, on right bank 25 ft downstream from Tucker Bridge, 0.5 mi upstream from Odell Creek, 4.0 mi, southwest of town of Hood River, and at mile 6.1.

DRAINAGE AREA.--279 mi².

PERIOD OF RECORD.--October 1897 to December 1899, September 1913 to September 1914, August 1915 to September 1917, January 1965 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1318: 1899. WSP 1935: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 383.2 ft above National Geodetic Vertical Datum of 1929 (Oregon State Highway Department bench mark). Prior to July 23, 1915, nonrecording gage at bridge at various datums. July 23 to Dec. 21, 1915, water-stage recorder at site 0.8 mi upstream at different datum. January 1916 to September 1917, nonrecording gage at bridge at different datum. Jan. 16 to July 23, 1965, nonrecording gage at bridge.

REMARKS.--Some daily fluctuation caused by diversion dam upstream from station and sawmill at Dee. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1898-99, 1914, 1916-17, 1966-87), 1,062 ft³/s, 769,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s Dec. 13, 1977, gage height, 15.59 ft; minimum discharge recorded, 136 ft³/s Sept. 16, 1915, caused by temporary storage behind dam at Dee.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 20.6 ft, present datum, discharge, 33,200 ft³/s, from rating curve extended above 1,500 ft³/s on basis of slope-area measurement of peak flow.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1899-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	270	222	202	188	174	--
3	24	275	226	206	192	178	--
7	24	285	238	219	205	192	--
14	24	299	251	231	217	203	--
30	24	316	266	245	230	216	--
60	24	342	290	269	254	240	--
90	24	367	313	292	277	263	--
120	24	407	345	320	303	287	--
183	24	534	442	404	376	349	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1898-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	8340	12400	14500	16500	17600	18500
3	27	6150	9100	10700	12300	13300	14100
7	27	4510	6510	7580	8680	9350	9900
15	27	3300	4560	5230	5920	6340	6700
30	27	2600	3430	3850	4250	4490	4680
60	27	2150	2730	3000	3270	3420	3540
90	27	1930	2380	2580	2760	2850	2930

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1898-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
7100	11100	16800	20500	25100	28500	31800	

Systematic n = 27 historical n = 90
Weighted skew = -0.300

SANDY RIVER BASIN

14131000 LITTLE ZIGZAG RIVER AT TWIN BRIDGES, NEAR RHODODENDRON, OR

LOCATION.--Lat $45^{\circ}18'50''$, long $121^{\circ}48'30''$, in NW 1/4 sec.15, T.3 S., R.8 E., Clackamas County, Hydrologic Unit 17080001, 0.1 mi upstream from mouth and the upper of Twin Bridges on the Mount Hood Loop Highway and 5.5 mi east of Rhododendron.

DRAINAGE AREA.--3.7 mi², approximately.

PERIOD OF RECORD.--April 1926 to September 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,905.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1927-36), 25.3 ft³/s, 18,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 250 ft³/s Mar. 31, 1931, gage height not determined, from area-velocity study and comparison with discharge of nearby streams; maximum gage height, 3.5 ft Oct. 7, 1930 (probably backwater from debris); minimum, 15 ft³/s Feb. 1-13, 16-18, 1932.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1936

(Low-flow statistics not computed due to insufficient period of record)

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1936

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	54	82	107	--	--	--
3	10	45	61	74	--	--	--
7	10	39	49	57	--	--	--
15	10	36	43	48	--	--	--
30	10	34	40	44	--	--	--
60	10	32	36	40	--	--	--
90	10	30	34	37	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1936

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
50	78	123	156	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = 0.006

SANDY RIVER BASIN

14134000 SALMON RIVER NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat $45^{\circ}15'55''$, long $121^{\circ}43'00''$, in SE 1/4 NW 1/4 sec.31, T.3 S., R.9 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank near lower end of Red Top Meadows and 3.0 mi southeast of Government Camp.

DRAINAGE AREA.--8.00 mi².

PERIOD OF RECORD.--May 1910 to May 1912, April 1926 to 1987. Published as "near Rowe" 1910-12.

REVISED RECORDS.--WSP 1398: 1911-12, 1926-27, 1933(M), 1949. WDR OR-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,445.53 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 21, 1910, nonrecording gage at site 0.2 mi upstream at different datum. Nov. 21, 1910, to May 31, 1912, and Apr. 21, 1926, to Sept. 30, 1933, at site 75 ft upstream from former site at different datums. Oct. 1, 1933, to Sept. 30, 1960, at datum 1.00 ft higher.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--62 years (water years 1911, 1927-87), 44.4 ft³/s, 75.37 in/yr, 32,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s Dec. 23, 1964, gage height, 4.75 ft, from rating curve extended above 310 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 10 ft³/s Nov. 27, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1912-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	61	17	15	13	12	11	10
3	61	18	15	13	12	11	10
7	61	18	15	14	13	12	11
14	61	19	16	15	13	12	11
30	61	20	17	15	14	13	12
60	61	22	18	16	15	14	13
90	61	23	19	17	16	15	14
120	61	25	20	19	17	16	15
183	61	30	24	21	20	18	17

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1911-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	62	192	295	376	497	601	717
3	62	146	213	267	348	419	500
7	62	121	164	195	240	276	314
15	62	104	135	154	178	196	214
30	62	93	117	130	145	155	164
60	62	83	100	109	118	124	128
90	62	74	88	95	102	106	109

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
183	284	456	593	793	963	1150	

Systematic n = 63 historical n = 0
Weighted skew = 0.280

SANDY RIVER BASIN

14134500 SALMON RIVER BELOW LINNEY CREEK, OR

LOCATION.--Lat 45°13'20", long 121°51'40", in SW 1/4 sec.17, T.4 S., R.8 E., Clackamas County, Hydrologic Unit 17080001, 200 ft downstream from Linney Creek, 8 mi southwest of Government Camp, and 9 mi southeast of Welches.

DRAINAGE AREA.--54 mi², approximately.

PERIOD OF RECORD.--October 1927 to September 1950.

GAGE.--Water-stage recorder. Elevation of gage is 2,500 ft, from topographic map. Prior to Oct. 18, 1934, 25 ft downstream at same datum.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--23 years (water years 1928-50), 205 ft³/s, 148,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft³/s Mar. 31, 1931, gage height, 5.81 ft, site then in use, from rating curve extended above 1,500 ft³/s by logarithmic plotting; minimum, 37 ft³/s Nov. 2, 1936, gage height, 0.22 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	52	47	45	44	43	--
3	22	52	47	46	44	43	--
7	22	53	48	46	45	44	--
14	22	55	49	47	46	45	--
30	22	57	52	50	48	47	--
60	22	62	54	52	50	48	--
90	22	66	57	54	52	50	--
120	22	72	61	57	54	52	--
183	22	98	77	69	64	58	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	1100	1680	2110	2710	3200	--
3	23	924	1360	1670	2090	2430	--
7	23	767	1060	1260	1520	1720	--
15	23	658	842	937	1030	1090	--
30	23	574	703	755	797	817	--
60	23	481	580	617	645	658	--
90	23	406	486	517	543	555	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1928-1950

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
901	1360	2090	2640	3410	4030	--	

Systematic n = 23 historical n = 0
Weighted skew = 0.160

SANDY RIVER BASIN

14135500 SALMON RIVER ABOVE BOULDER CREEK, NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°21'40", long 122°00'40", in SW 1/4 SE 1/4 sec.25, T.2 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, on left bank 1.1 mi upstream from Boulder Creek, 1.2 mi south of Brightwood, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--106 mi².

PERIOD OF RECORD.--August 1936 to September 1952.

GAGE.--Water-stage recorder. Datum of gage is 1,089.2 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1937-52) 452 ft³/s, 327,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s Dec. 14, 1946, gage height, 7.08 ft, from rating curve extended above 4,100 ft³/s by logarithmic plotting; minimum, 59 ft³/s Nov. 30, Dec. 1, 1936, Sept. 25, 26, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	81	70	65	61	--	--
3	15	82	71	65	61	--	--
7	15	83	72	67	63	--	--
14	15	86	75	70	66	--	--
30	15	91	79	74	69	--	--
60	15	100	86	79	74	--	--
90	15	111	92	84	78	--	--
120	15	134	105	92	83	--	--
183	15	217	156	132	114	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1937-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	3270	4760	5960	7760	--	--
3	16	2270	3440	4490	6240	--	--
7	16	1690	2490	3150	4170	--	--
15	16	1290	1780	2120	2560	--	--
30	16	1100	1420	1600	1800	--	--
60	16	916	1110	1210	1290	--	--
90	16	834	1010	1100	1170	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1937-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3290	4910	7340	9050	11300	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.008

SANDY RIVER BASIN

14137000 SANDY RIVER NEAR MARMOT, OR

LOCATION.--Lat $45^{\circ}23'30''$, long $122^{\circ}07'40''$, in SE 1/4 sec.13, T.2 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, on right bank 0.7 mi southwest of Marmot, 0.8 mi upstream from Sandy River Dam of Portland General Electric Co., 6.6 mi downstream from Salmon River, and at mile 30.9.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--August 1911 to 1987. Published as "at Marmot" October 1912 to September 1913. Records for January 1916 to June 1919, published as "below dam, near Marmot," obtained by combining records for Sandy River below dam, near Marmot, with records for Sandy River Canal near Marmot.

REVISED RECORDS.--WSP 594: Drainage area. WSP 1288: 1912(M), 1915, 1922, 1924, 1934(M). WSP 1318: 1932(M).

GAGE.--Water-stage recorder. Elevation of gage is 730 ft, from river-profile map. Aug. 15, 1911, to Dec. 20, 1915, and July 2, 1919, to Oct. 19, 1933, nonrecording gage at site 1.0 mi upstream at different datum. Oct. 20, 1933, to Sept. 30, 1958, water-stage recorder at site 0.6 mi upstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--76 years, 1,362 ft³/s, 70.60 in/yr, 986,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,400 ft³/s Dec. 22, 1964, gage height, 17.05 ft, from rating curve extended above 7,000 ft³/s; maximum gage height, 17.10 ft, Feb. 23, 1986; minimum, 195 ft³/s Nov. 27, 28, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	71	292	254	235	221	206	197
3	71	297	257	238	224	208	198
7	71	306	265	244	229	212	201
14	71	319	275	254	238	220	209
30	71	339	291	269	251	233	221
60	71	375	317	290	270	249	235
90	71	412	344	313	290	266	252
120	71	469	384	348	322	295	279
183	71	689	543	483	439	396	370

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	74	10600	15700	19300	23900	27400	31000
3	74	7810	11400	14000	17400	20100	22800
7	74	5680	7930	9420	11300	12700	14100
15	74	4250	5620	6470	7490	8210	8910
30	74	3340	4280	4870	5570	6070	6560
60	74	2690	3350	3740	4210	4530	4840
90	74	2410	2940	3240	3580	3820	4030

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1912-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
9160	14300	22100	27700	35000	40700	46500	

Systematic n = 76 historical n = 0
Weighted skew = -0.085

SANDY RIVER BASIN

14135000 SALMON RIVER AT WELCHES, OR

LOCATION.--Lat $45^{\circ}19'10''$, long $121^{\circ}57'10''$, in S-1/2 sec. 9, T.3 S., R.7 E., Clackamas County, Hydrologic Unit 17080001, 1,200 ft downstream from Cheeney Creek and 0.8 mi southeast of Welches.

DRAINAGE AREA.--100 mi².

PERIOD OF RECORD.--September 1913 to September 1914, August 1920 to September 1921, April 1925 to September 1936.

GAGE.--Staff gage. Elevation of gage is 1,350 ft, from topographic map. Aug. 15, 1913, to Sept. 30, 1914, 0.8 mi downstream at different datum. July 26, 1920, to Sept. 15, 1921, Apr. 1, 1925, to May 2, 1931, about 500 ft downstream at various datums.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1914, 1921, 1926-36), 438 ft³/s, 317,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Mar. 31, 1931, gage height, 9.80 ft, site and datum then in use, from rating curve extended above 4,600 ft³/s; minimum, 65 ft³/s Dec. 3-6, 1929, Aug. 31 to Sept. 3, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1936

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	11	71	66	64	--	--	--	
3	11	71	66	64	--	--	--	
7	11	72	67	65	--	--	--	
14	11	74	69	67	--	--	--	
30	11	78	71	69	--	--	--	
60	11	86	76	72	--	--	--	
90	11	94	80	75	--	--	--	
120	11	106	87	81	--	--	--	
183	11	171	130	117	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1936

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	13	4220	5700	6700	--	--	--	
3	13	2930	3960	4580	--	--	--	
7	13	2060	2850	3370	--	--	--	
15	13	1490	1970	2270	--	--	--	
30	13	1150	1410	1580	--	--	--	
60	13	915	1110	1230	--	--	--	
90	13	806	957	1050	--	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1936

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3950	5360	7520	9110	--	--	--	

Systematic n = 13 historical n = 0
Weighted skew = 0.374

SANDY RIVER BASIN

14138800 BLAZED ALDER CREEK NEAR RHODODENDRON, OR

LOCATION.--Lat 45°27'10", long 121°53'25", in NW 1/4 SE 1/4 sec.25, T.1 S., R.7 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 600 ft below the confluence of Bedrock and Hickman Creeks and 8.6 mi north of Rhododendron.

DRAINAGE AREA.--8.17 mi².

PERIOD OF RECORD.--October 1963 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--24 years, 58.8 ft³/s, 97.74 in/yr, 42,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,610 ft³/s Dec. 22, 1964, gage height, 8.25 ft, from rating curve extended above 330 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 1.5 ft³/s Sept. 5-10, 28, 29, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	2.3	1.9	1.7	1.6	1.5	--
3	23	2.4	1.9	1.7	1.6	1.5	--
7	23	2.5	2.0	1.8	1.7	1.6	--
14	23	2.7	2.1	1.9	1.7	1.6	--
30	23	3.2	2.4	2.1	1.9	1.8	--
60	23	4.5	3.1	2.6	2.3	2.0	--
90	23	7.0	4.6	3.7	3.0	2.5	--
120	23	10	7.1	5.7	4.7	3.8	--
183	23	24	17	14	12	9.6	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	735	1030	1210	1420	1560	--
3	24	498	700	831	994	1110	--
7	24	349	480	559	652	717	--
15	24	237	312	359	415	455	--
30	24	173	223	257	302	337	--
60	24	133	168	192	223	247	--
90	24	116	145	164	189	209	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
793	1110	1530	1790	2120	2360	--	

Systematic n = 24 historical n = 0
Weighted skew = -0.149

SANDY RIVER BASIN

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR

LOCATION.--Lat 45°29'50", long 122°00'50", near center of sec.12, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 1.2 mi upstream from North Fork, 7.0 mi southeast of Multnomah Falls, and at mile 14.8.

DRAINAGE AREA.--47.9 mi².

PERIOD OF RECORD.--August 1966 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,080 ft, from topographic map.

REMARKS.--Regulation at times since 1915 by Bull Run Lake, usable capacity, 12,270 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--21 years, 416 ft³/s, 117.94 in/yr, 301,400 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,610 ft³/s Jan. 20, 1972, gage height, 13.22 ft; minimum discharge, 33 ft³/s Sept. 27, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	46	39	36	34	31	--
3	20	47	40	36	34	31	--
7	20	48	41	37	34	31	--
14	20	51	42	38	36	33	--
30	20	59	47	42	39	35	--
60	20	73	55	48	43	38	--
90	20	96	72	61	53	45	--
120	20	119	92	80	70	61	--
183	20	191	154	138	126	114	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	4540	5550	5930	6240	6380	--
3	21	3310	3860	4010	4100	4130	--
7	21	2310	2830	3020	3180	3260	--
15	21	1530	1920	2130	2370	2520	--
30	21	1140	1410	1560	1740	1850	--
60	21	897	1110	1240	1400	1510	--
90	21	785	960	1070	1210	1310	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1967-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4770	5870	7220	8030	8990	9660	--

Systematic n = 21 historical n = 0
Weighted skew = -0.047

SANDY RIVER BASIN

14138870 FIR CREEK NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°28'56", long 122°01'36", in NE 1/4 SE 1/4 sec.14, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, on right bank, 6.4 mi north of Brightwood and 0.6 mi above Bull Run Reservoir Number One.

DRAINAGE AREA.--5.46 mi².

PERIOD OF RECORD.--October 1975 to 1987.

REVISED RECORDS.--WDR OR-78-1: 1976. WDR OR-82-2: 1976(P), 1978-79(P), 1981.

GAGE.--Water-stage recorder. Elevation of gage is 1,440 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years, 34.4 ft³/s, 85.56 in/yr, 24,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft³/s Dec. 2, 1977, gage height, 5.64 ft; minimum discharge, 1.9 ft³/s Aug. 17-23, 1977, Sept. 16-18, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	11	2.6	2.1	1.9	--	--	--	
3	11	2.6	2.2	2.0	--	--	--	
7	11	2.7	2.2	2.0	--	--	--	
14	11	3.0	2.5	2.2	--	--	--	
30	11	3.6	2.9	2.7	--	--	--	
60	11	4.6	3.8	3.6	--	--	--	
90	11	6.4	5.2	4.7	--	--	--	
120	11	8.7	6.9	6.1	--	--	--	
183	11	15	12	9.9	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	12	391	520	576	--	--	--	
3	12	283	359	388	--	--	--	
7	12	196	265	302	--	--	--	
15	12	127	172	202	--	--	--	
30	12	95	126	148	--	--	--	
60	12	75	95	110	--	--	--	
90	12	66	81	93	--	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1976-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
384	561	820	1000	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.010

SANDY RIVER BASIN

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR

LOCATION.--Lat 45°29'40", long 122°02'05", near line between SE 1/4 and SW 1/4 sec.11, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, Mount Hood National Forest, on left bank 7.0 mi southeast of Multnomah Falls and at mouth.

DRAINAGE AREA.--8.32 mi².

PERIOD OF RECORD.--August 1965 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,060 ft, from topographic map. Prior to Oct. 1, 1978, at site 700 ft upstream at datum 18.7 ft higher.

REMARKS.--Regulation at times since 1958 by North Fork Reservoir, capacity, about 1,030 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--22 years, 76.0 ft³/s, 124.05 in/yr, 55,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft³/s, probably affected by surge from release of water temporarily impounded by landslide upstream from station, Jan. 20, 1972, gage height, 9.89 ft, from floodmark, from rating curve extended above 850 ft³/s on basis of estimate of peak flow from slope-area survey; minimum discharge, 9.1 ft³/s Oct. 2-14, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	13	11	10	9.7	8.8	--
3	21	13	11	10	9.7	8.8	--
7	21	14	12	11	9.7	8.8	--
14	21	14	12	11	10	9.0	--
30	21	15	13	11	10	9.3	--
60	21	17	14	13	12	12	--
90	21	21	17	15	14	13	--
120	21	25	20	18	16	15	--
183	21	37	29	25	23	20	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	811	1200	1460	1770	2000	--
3	22	563	779	907	1050	1150	--
7	22	397	547	637	738	807	--
15	22	274	371	431	504	555	--
30	22	204	268	308	355	388	--
60	22	160	209	242	287	322	--
90	22	141	179	206	242	270	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1966-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
701	1120	1760	2220	2830	3310	--	

Systematic n = 22 historical n = 0
Weighted skew = -0.089

SANDY RIVER BASIN

14139500 BULL RUN RIVER BELOW LAKE BEN MORROW, OR

LOCATION.--Lat 45°29'00", long 122°04'50", in SE 1/4 sec.16, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, in gatehouse at Bear Creek Dam on Bull Run River, 500 ft downstream from Bear Creek, 1,000 ft upstream from Fivemile Creek, and 8.5 mi northeast of Bull Run.

DRAINAGE AREA.--74 mi², approximately.

PERIOD OF RECORD.--October 1929 to September 1954. Published as "below Bull Run Reservoir near Bull Run" in 1930 and as "below Bull Run Reservoir" 1931-37.

GAGE.--Water-stage recorder upstream from crest of spillway and scales indicating number of turns outlet needle valves are open. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Portland Water Bureau). Prior to Oct. 1, 1934, at site 0.5 mi downstream at different datum.

REMARKS.--Discharge determined by combining discharge through valves near base of dam and discharge over crest of spillway (elevation, 1,036 ft). Leakage at dam is less than 1 ft³/s and is disregarded. Flow regulated by Bull Run Lake and Lake Ben Morrow (since 1928); flow from Bull Run Lake is not artificially regulated but reaches river through surface and underground channels.

AVERAGE DISCHARGE.--25 years (water years 1930-54), 582 ft³/s, 421,400 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge at dam, 16,100 ft³/s, Mar. 31, 1931, elevation, 1,047.40 ft (with 1 valve open 30 turns); no flow Oct. 27, 1939, Oct. 2, 1951, Dec. 11-13, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	64	21	4.5	0.0	0.0	--
3	24	71	32	16	5.0	0.0	--
7	24	80	55	44	36	29	--
14	24	87	68	60	55	49	--
30	24	94	77	70	65	60	--
60	24	105	87	80	75	70	--
90	24	113	94	87	82	78	--
120	24	136	103	91	83	75	--
183	24	240	171	145	127	109	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1954

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	5710	7860	9480	11800	13600	15700
3	25	4050	5470	6480	7830	8900	10000
7	25	2840	3760	4380	5160	5740	6330
15	25	2080	2690	3050	3470	3760	4030
30	25	1650	2140	2430	2760	2980	3190
60	25	1270	1590	1780	1990	2130	2250
90	25	1140	1380	1500	1640	1720	1790

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

SANDY RIVER BASIN

14139700 CEDAR CREEK NEAR BRIGHTWOOD, OR

LOCATION.--Lat $45^{\circ}27'30''$, long $122^{\circ}01'50''$, in NE 1/4 sec.26, T.1 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 5.8 mi north of Brightwood and at mile 2.5.

DRAINAGE AREA.--7.93 mi².

PERIOD OF RECORD.--July to November 1964, June 1965 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 1,960 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--22 years, 67.0 ft³/s, 114.74 in/yr, 48,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft³/s Dec. 22, 1964, gage height, 7.20 ft, from rating curve extended above 320 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 6.9 ft³/s Oct. 9-13, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	9.6	8.4	7.8	7.3	6.8	--
3	21	9.8	8.5	7.8	7.3	6.8	--
7	21	10	8.6	8.0	7.5	6.9	--
14	21	11	9.0	8.4	7.9	7.4	--
30	21	12	10	9.2	8.6	8.0	--
60	21	14	12	11	10	9.7	--
90	21	17	14	13	12	11	--
120	21	21	17	16	14	13	--
183	21	31	25	22	20	18	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	708	895	980	1060	1100	--
3	22	501	608	646	674	686	--
7	22	350	432	466	495	510	--
15	22	234	296	334	378	409	--
30	22	176	224	253	288	313	--
60	22	141	175	197	223	243	--
90	22	123	153	172	195	213	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1966-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
659	932	1280	1490	1750	1920	--	

Systematic n = 22 historical n = 0
Weighted skew = -0.318

SANDY RIVER BASIN

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR

LOCATION.--Lat 45°26'38", long 122°06'20", in NE 1/4 NE 1/4 sec.31, T.1 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 6.2 mi northeast of Bull Run, and at mile 0.6.

DRAINAGE AREA.--15.4 mi².

PERIOD OF RECORD.--October 1974 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 990 ft from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years, 108 ft³/s, 95.24 in/yr, 78,250 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft³/s Dec. 2, 1977, gage height, 8.32 ft, from rating curve extended above 1,200 ft³/s; minimum discharge, 7.8 ft³/s Sept. 10, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	12	12	10	8.9	--	--	--	
3	12	13	10	9.1	--	--	--	
7	12	13	11	9.5	--	--	--	
14	12	14	12	10	--	--	--	
30	12	16	13	12	--	--	--	
60	12	20	16	15	--	--	--	
90	12	25	20	18	--	--	--	
120	12	33	26	23	--	--	--	
183	12	52	41	35	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	13	1210	1520	1640	--	--	--	
3	13	811	996	1060	--	--	--	
7	13	568	707	765	--	--	--	
15	13	374	473	533	--	--	--	
30	13	281	351	399	--	--	--	
60	13	229	278	311	--	--	--	
90	13	201	240	266	--	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1975-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1190	1600	2150	2520	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = 0.025

SANDY RIVER BASIN

14141500 LITTLE SANDY RIVER NEAR BULL RUN, OR

LOCATION.--Lat $45^{\circ}24'55''$, long $122^{\circ}10'20''$, in NE 1/4 NE 1/4 sec.10, T.2 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on left bank 0.25 mi upstream from Portland General Electric Co. dam and tunnel from Sandy River, 3.0 mi east of Bull Run, and at mile 1.95.

DRAINAGE AREA.--22.3 mi².

PERIOD OF RECORD.--May to July 1911, October 1911 to March 1912, June 1912 to April 1913, July 1919 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1154: 1949. WSP 1248: Drainage area. WSP 1288: 1912, 1920-21(M), 1922-23, 1931, 1945. WSP 1318: 1920. WDR OR-82-2: 1972(P), 1974-76(P), 1978-81(P).

GAGE.--Water-stage recorder. Elevation of gage is 720 ft, from topographic map. May 23, 1911, to Apr. 29, 1913, nonrecording gage at site 0.85 mi downstream at different datum, 0.5 mi downstream from Sandy River diversion tunnel. July 1, 1919, to Sept. 30, 1931, water-stage recorder at site 0.1 mi downstream at different datum. Oct 1, 1931, to Nov. 3, 1967, at site 0.1 mi downstream at datum 712 ft above National Geodetic Vertical Datum of 1929. Nov. 4, 1967, to Aug. 8, 1971, water-stage recorder at site 0.1 mi downstream at datum 697.44 ft above National Geodetic Vertical Datum of 1929 (Portland General Electric Co. bench mark).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--68 years (water years 1920-87), 145 ft³/s, 88.30 in/yr, 105,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,320 ft³/s Nov. 20, 1921, gage height, 9.18 ft, site and datum then in use, from rating curve extended above 2,200 ft³/s; minimum discharge, 8 ft³/s Aug. 20, Sept. 16, 17, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1921-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	67	14	12	11	9.9	9.1	8.7
3	67	14	12	11	9.9	9.1	8.7
7	67	15	12	11	10	9.7	9.3
14	67	15	13	12	11	10	9.7
30	67	17	14	12	11	11	10
60	67	20	16	14	13	11	11
90	67	26	19	16	14	12	11
120	67	34	24	20	18	15	13
183	67	62	46	39	35	30	27

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1920-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	68	1450	2020	2410	2910	3300	3690
3	68	1000	1370	1620	1960	2220	2500
7	68	703	926	1060	1230	1350	1460
15	68	504	654	748	862	945	1030
30	68	387	492	557	634	689	742
60	68	306	382	429	486	528	568
90	68	272	335	374	422	457	490

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1913-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1520	2170	3090	3720	4540	5170	5810

Systematic n = 69 historical n = 0
Weighted skew = 0.029

SANDY RIVER BASIN

14142500 SANDY RIVER BELOW BULL RUN RIVER, NEAR BULL RUN, OR

LOCATION.--Lat 45°26'57", long 122°14'38", in SW 1/4 sec.30, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, on left bank 0.1 mi downstream from Bull Run River, 0.2 mi downstream from Dodge Park, 400 ft below city of Portland water conduit crossing Sandy River, and at mile 18.4.

DRAINAGE AREA.--436 mi².

PERIOD OF RECORD.--April 1910 to September 1914, October 1929 to September 1966, May 1984 to 1987. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 240 ft, from topographic map. April 1910 to September 1914, staff gage at present site at different datum. October 1929 to September 1966, water-stage recorder at site 0.8 mi downstream at different datum.

REMARKS.--Flow regulated since 1915 by Bull Run Lake, since 1929 by Bull Run Reservoir Number One (station 14139000), and since 1961 by Bull Run Reservoir Number Two (station 14139900). Some fluctuation caused by Bull Run powerplant of Portland General Electric Company.

AVERAGE DISCHARGE.--44 years (water years 1911-14, 1930-66, 1985-87) 2,327 ft³/s, 1,686,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,400 ft³/s Dec. 22, 1964, gage height, 22.3 ft, site and datum then in use; minimum discharge, 45 ft³/s Sept. 26, 1962, minimum daily, 63 ft³/s Oct. 12, Nov. 9, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	30	161	107	87	74	62	55	
3	30	297	221	183	154	124	106	
7	30	360	301	273	252	229	214	
14	30	385	326	300	280	258	245	
30	30	409	351	326	308	291	281	
60	30	457	380	347	322	297	282	
90	30	508	410	370	342	314	297	
120	30	620	470	411	370	330	308	
183	30	1060	764	647	565	486	441	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	31	20300	27600	32600	39100	44100	49200	
3	31	14900	19700	22900	27000	30000	33100	
7	31	10500	13700	15700	18200	19900	21600	
15	31	7840	9920	11100	12300	13000	13700	
30	31	6220	7850	8750	9750	10400	11000	
60	31	5010	6110	6710	7360	7790	8160	
90	31	4540	5420	5870	6320	6600	6840	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14144800 MIDDLE FORK WILLAMETTE RIVER NEAR OAKRIDGE, OR

LOCATION.--Lat 43°35'50", long 122°27'20", in NW 1/4 NE 1/4 sec.9, T.23 S., R.3 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 0.2 mi upstream from Windfall Creek, 8.3 mi upstream from Hills Creek Dam, 10.2 mi south of Oakridge, and at mile 240.8.

DRAINAGE AREA.--258 mi².

PERIOD OF RECORD.--October 1958 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,556.83 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 21, 1967, at site 0.5 mi upstream at different datums. June 22, 1967, to June 23, 1971, water-stage recorder at same site at datum 5.00 ft higher.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--29 years, 817 ft³/s, 43.00 in/yr, 592,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,800 ft³/s Dec. 22, 1964, gage height, 16.96 ft, from floodmark, site and datum then in use, from rating curve extended above 5,100 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 187 ft³/s Sept. 15, 16, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	28	241	215	203	195	186	180
3	28	242	216	205	196	188	182
7	28	245	218	207	198	189	183
14	28	249	222	210	201	192	186
30	28	256	229	219	211	203	199
60	28	269	241	229	221	212	207
90	28	284	255	243	235	227	222
120	28	305	270	256	246	237	232
183	28	422	349	319	298	278	266

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29	6620	11100	14000	17700	20400	23000
3	29	4800	7820	9960	12800	14900	17100
7	29	3340	5140	6410	8080	9370	10700
15	29	2420	3450	4130	5000	5640	6280
30	29	1910	2570	3010	3560	3960	4370
60	29	1540	2010	2320	2700	2990	3270
90	29	1380	1780	2030	2320	2530	2730

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
5220	8510	14400	19300	26600	33000	40300	

Systematic n = 29 historical n = 0
Weighted skew = 0.271

WILLAMETTE RIVER BASIN

14144900 HILLS CREEK ABOVE HILLS CREEK LAKE, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°40'50", long 122°22'10", in NW 1/4 NW 1/4 sec.8, T.22 S., R.4 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 0.2 mi downstream from Tufti Creek, 0.7 mi upstream from Hills Creek Lake, 6.5 mi southeast of Oakridge, and at mile 4.1.

DRAINAGE AREA.--52.7 mi².

PERIOD OF RECORD.--October 1958 to September 1981. Prior to October 1971, published as "Hills Creek above Hills Creek Reservoir".

GAGE.--Water-stage recorder. Datum of gage is 1,630.80 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--23 years, 150 ft³/s, 38.65 in/yr, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s Dec. 22, 1964, gage height, 12.23 ft, from rating curve extended above 1,800 ft³/s on basis of slope-area measurement of peak flow; minimum, 14 ft³/s Nov. 1, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	20	18	17	16	16	--
3	22	20	18	17	16	16	--
7	22	20	18	17	16	16	--
14	22	21	19	18	17	17	--
30	22	22	20	19	19	19	--
60	22	26	23	22	21	20	--
90	22	28	25	23	23	22	--
120	22	34	28	26	24	23	--
183	22	60	44	37	32	27	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	1410	2370	3130	4220	5120	--
3	23	1020	1710	2290	3200	4010	--
7	23	692	1120	1500	2100	2650	--
15	23	475	712	917	1240	1540	--
30	23	374	522	646	838	1010	--
60	23	304	416	507	642	758	--
90	23	268	363	435	538	623	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1100	1690	2810	3800	5390	6850	--	

Systematic n = 23 historical n = 0
Weighted skew = 0.629

WILLAMETTE RIVER BASIN

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR

LOCATION.--Lat $43^{\circ}43'20''$, long $122^{\circ}26'15''$, in NW 1/4 NE 1/4 sec.27, T.21 S., R.3 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 90 ft upstream from highway bridge, 0.4 mi upstream from Salt Creek, 1.1 mi downstream from Hills Creek Dam, 2.3 mi southeast of Oakridge, and at mile 231.4.

DRAINAGE AREA.--392 mi².

PERIOD OF RECORD.--October 1913 to September 1914, September 1935 to 1987. Monthly discharge only September 1935, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1914.

GAGE.--Water-stage recorder. Datum of gage is 1,208.01 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Oct. 3, 1913, to Sept. 30, 1914, nonrecording gage and Sept. 1, 1935, to Aug. 18, 1960, water-stage recorder at sites 400 ft and 1,000 ft downstream, respectively, at different datum.

REMARKS.--Flow regulated since 1961 by Hills Creek Lake (station 14145100). No diversions upstream from station.

AVERAGE DISCHARGE.--53 years, 1,156 ft³/s, 40.05 in/yr, 837,500 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft³/s Dec. 28, 1945, gage height, 12.06 ft, site and datum then in use, from rating curve extended above 13,000 ft³/s; minimum observed discharge, 0.70 ft³/s, Sept. 8-11, 13, 1961, result of regulation.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	276	242	224	209	193	--
3	24	278	243	225	210	194	--
7	24	282	246	227	212	195	--
14	24	286	250	230	215	197	--
30	24	295	257	236	220	201	--
60	24	313	270	247	229	208	--
90	24	332	282	257	237	215	--
120	24	361	298	269	247	224	--
183	24	537	395	333	288	244	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	9350	16000	21300	29000	35500	42600
3	26	7130	11300	14400	18800	22300	25900
7	26	5020	7390	9020	11100	12700	14400
15	26	3570	5040	6040	7330	8310	9300
30	26	2900	3880	4470	5140	5610	6040
60	26	2360	3080	3510	4020	4370	4700
90	26	2140	2720	3040	3380	3600	3800

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1960

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6780	11800	20900	28200	39200	48400	58800	

Systematic n = 26 historical n = 0
Weighted skew = 0.082

WILLAMETTE RIVER BASIN

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	148	99	81	68	57	51
3	25	178	118	93	76	60	51
7	25	211	138	107	84	63	52
14	25	256	165	125	98	72	57
30	25	313	201	155	123	92	76
60	25	442	278	209	161	117	93
90	25	618	382	273	198	130	95
120	25	704	465	353	272	196	154
183	25	854	680	600	540	477	439

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	4800	6560	7620	8870	9740	10600
3	26	4540	6320	7440	8820	9810	10800
7	26	4160	5820	6850	8090	8960	9800
15	26	3480	4920	5870	7070	7950	8840
30	26	2740	3770	4500	5450	6200	6980
60	26	2200	2970	3520	4250	4820	5410
90	26	1970	2630	3080	3650	4080	4510

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14146000 SALT CREEK NEAR OAKRIDGE, OR

LOCATION.--Lat 43°43'45", long 122°25'35", in SW 1/4 sec.23, T.21 S., R.3 E., Lane County, Hydrologic Unit 17090001, on right bank 0.7 mi upstream from mouth and 2 mi southeast of Oakridge.

DRAINAGE AREA.--113 mi².

PERIOD OF RECORD.--July 1913 to September 1914, October 1933 to September 1951.

GAGE.--Water-stage recorder. Datum of gage is 1,245.67 ft above National Geodetic Vertical Datum of 1929. July 19, 1913, to Sept. 30, 1914, staff gage 0.5 mi downstream at different datum.

REMARKS.--No regulation. Since spring of 1948, there has been a small intermittent, unmeasured diversion around gage to millpond downstream.

AVERAGE DISCHARGE.--19 years (water years 1914, 1934-51), 293 ft³/s, 212,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s Oct. 29, 1950, gage height, 8.00 ft, from rating curve extended above 2,600 ft³/s by logarithmic plotting; minimum, 55 ft³/s Jan. 8, 1937, result of freezeup; minimum daily, 66 ft³/s Jan. 8, 1937.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1935-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	100	83	75	69	--	--
3	17	100	85	78	73	--	--
7	17	102	88	81	75	--	--
14	17	104	89	82	77	--	--
30	17	106	91	84	79	--	--
60	17	111	95	87	82	--	--
90	17	115	98	90	84	--	--
120	17	123	102	93	87	--	--
183	17	165	124	108	97	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	1440	2270	2850	3610	--	--
3	19	1170	1720	2100	2590	--	--
7	19	888	1240	1480	1800	--	--
15	19	700	922	1060	1240	--	--
30	19	612	764	844	928	--	--
60	19	538	666	733	803	--	--
90	19	490	592	641	689	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1020	1700	2850	3720	4940	--	--	

Systematic n = 19 historical n = 0
Weighted skew = -0.026

WILLAMETTE RIVER BASIN

14146500 SALMON CREEK NEAR OAKRIDGE, OR

LOCATION.--Lat $43^{\circ}45'45''$, long $122^{\circ}22'18''$, in NE $1/4$ sec.7, T.21 S., R.4 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 190 ft upstream from Salmon Creek Falls, 0.1 mi upstream from Needle Creek, 4.6 mi east of Oakridge, and at mile 5.84.

DRAINAGE AREA.--117 mi², at measuring cable 0.25 mi downstream from gage.

PERIOD OF RECORD.--October to November 1909 (gage heights and one discharge measurement only), February 1913 to October 1919, October 1933 to September 1985, October 1986 to September 1987. Monthly discharge only for some periods, published in WSP 1318. Published as Kelsey River near Hazeldell and Salmon Creek near Hazeldell, 1909.

REVISED RECORDS.--WSP 794: 1934(M). WSP 814: Drainage area. WSP 1124: 1935, 1942(M), 1943, 1946(M). WSP 1248: 1915, 1918. WDR OR-71-1: 1968, 1969(M,P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,462.36 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1914, nonrecording gage at several sites within 4 mi of present site at various datums. Oct. 1, 1914, to Oct. 14, 1919, water-stage recorder at site 1.8 mi downstream at different datum. Nov. 5, 1933, to Oct. 27, 1964, water-stage recorder at site 0.8 mi downstream at datum 40.53 ft lower. Oct. 28, 1964, to Aug. 27, 1965, nonrecording gage at site 0.6 mi downstream at different datum.

REMARKS.--No regulation or diversion upstream from station. All records given herein are for measuring cable site.

AVERAGE DISCHARGE.--59 years (water years 1914-19, 1934-85, 1987), 427 ft³/s, 49.56 in/yr, 309,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s Dec. 22, 1964, gage height, 9.15 ft, from floodmark, site and datum then in use, from rating curve extended above 2,100 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 63 ft³/s Jan. 8, 1937, result of freeze up.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1915-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	56	124	107	99	93	86	81
3	56	125	108	101	95	88	84
7	56	126	110	103	97	91	87
14	56	129	112	105	99	92	88
30	56	135	117	109	102	96	92
60	56	142	124	116	109	102	98
90	56	151	131	121	114	106	101
120	56	164	140	128	120	111	105
183	56	224	176	156	142	127	118

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	59	2570	4090	5210	6760	7990	9300
3	59	2040	3120	3950	5120	6070	7110
7	59	1540	2230	2730	3410	3950	4510
15	59	1180	1590	1870	2220	2480	2740
30	59	957	1250	1440	1660	1820	1970
60	59	795	1020	1160	1320	1440	1550
90	59	727	920	1030	1160	1250	1330

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1900	3220	5440	7150	9560	11500	13600	

Systematic n = 59 historical n = 0
Weighted skew = -0.023

WILLAMETTE RIVER BASIN

14147000 WALDO LAKE OUTLET NEAR OAKRIDGE, OR

LOCATION.--Lat $43^{\circ}46'05''$, long $122^{\circ}03'10''$, in SE 1/4 NW 1/4 sec.7, T.21 S., R.6 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank of artificial outlet channel of Waldo Lake forming the headwaters of the North Fork of the Middle Fork of Willamette River, 20 mi east of Oakridge, and at mile 43.5.

DRAINAGE AREA.--30.5 mi², of which about 10.5 mi² is Waldo Lake.

PERIOD OF RECORD.--October 1936 to September 1953, October 1969 to October 1982, October 1983 to September 1984.

GAGE.--Water-stage recorder and modified v-notch weir. Elevation of gage is 5,410 ft, from topographic map. October 1936 to September 1953, at site 120 ft upstream on left bank at same datum.

REMARKS.--At times seiches from Waldo Lake cause rapid changes in stage at gage many times each hour. No regulation. Diversion tunnel into head of Black Creek, near south end of lake, built about 1914, is sealed off, but there was leakage of 0.51 ft³/s past control gates, measured Oct. 1, 1981.

AVERAGE DISCHARGE.--30 years, 34.2 ft³/s, 24,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150 ft³/s Jan. 20, 1971, from rating curve extended above 77 ft³/s and adjusted for overbank flow; maximum gage height, 2.98 ft Jan. 2, 1943; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1982

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	27	0.4	0.0	0.0	0.0	0.0	0.0
3	27	0.4	0.0	0.0	0.0	0.0	0.0
7	27	0.4	0.0	0.0	0.0	0.0	0.0
14	27	0.5	0.0	0.0	0.0	0.0	0.0
30	27	0.9	0.0	0.0	0.0	0.0	0.0
60	27	1.7	0.0	0.0	0.0	0.0	0.0
90	27	2.8	0.5	0.1	0.0	0.0	0.0
120	27	5.7	1.6	0.6	0.1	0.0	0.0
183	27	14	6.0	3.4	1.9	1.0	0.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1937-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29	78	110	129	150	163	176
3	29	77	109	127	148	161	174
7	29	75	106	125	145	159	172
15	29	73	102	119	138	151	162
30	29	69	96	111	128	138	148
60	29	64	88	101	116	126	135
90	29	61	84	96	109	118	125

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1937-1982

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
52	78	112	134	161	180	198	

Systematic n = 30 historical n = 0
Weighted skew = -0.293

WILLAMETTE RIVER BASIN

14147500 NORTH FORK OF MIDDLE FORK WILLAMETTE RIVER NEAR OAKRIDGE, OR

LOCATION.--Lat 43°45'25", long 122°30'15", in SW 1/4 sec.7, T.21 S., R.3 E., Lane County, Hydrologic Unit 17090001, on left bank 2.5 mi northwest of Oakridge, and at mile 1.0.

DRAINAGE AREA.--246 mi², at measuring section 0.5 mi downstream.

PERIOD OF RECORD.--October 1909 to March 1916, September 1935 to September 1985, October 1986 to September 1987. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1912, published as "near Hazeldell."

REVISED RECORDS.--WSP 1248: 1914-16.

GAGE.--Water-stage recorder. Datum of gage is 1,029.6 ft above National Geodetic Vertical Datum of 1929 (river profile survey). Oct. 1, 1909, to Mar. 31, 1916, water-stage recorder or nonrecording gage at several sites within 0.8 mi of present site at various datums. Sept. 10, 1935, to Oct. 3, 1938, nonrecording gage at present site and datum.

REMARKS.--Slight regulation by Waldo Lake; occasional fluctuations during low-water periods caused by log-ponds upstream from station. No diversions upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--57 years (water years 1910-15, 1936-85, 1987), 791 ft³/s, 43.67 in/yr, 573,100 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,400 ft³/s Dec. 22, 1964, gage height, 19.14 ft, from floodmark, from rating curve extended above 7,100 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 22 ft³/s Aug. 20, 1966, probably due to temporary storage into upstream log-pond.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1911-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	55	127	109	101	94	88	84
3	55	129	114	107	103	98	96
7	55	132	116	110	105	101	98
14	55	136	120	113	107	102	99
30	55	144	126	118	112	106	103
60	55	157	136	126	120	113	108
90	55	174	147	136	127	118	113
120	55	198	163	148	137	127	120
183	55	322	242	208	184	161	147

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1910-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	57	5940	9360	11600	14300	16300	18200
3	57	4670	7230	8980	11200	12900	14600
7	57	3440	5020	6090	7450	8470	9490
15	57	2550	3500	4120	4880	5430	5980
30	57	2050	2720	3140	3650	4020	4370
60	57	1650	2140	2440	2810	3070	3330
90	57	1490	1900	2140	2420	2610	2790

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1910-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	.5 20%	10 10%	25 4%	50 2%	100 1%	
4800	7310	11300	14300	18400	21700	25200	

Systematic n = 56 historical n = 0
Weighted skew = 0.119

WILLAMETTE RIVER BASIN

14148000 MIDDLE FORK WILLAMETTE RIVER BELOW NORTH FORK, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°48'05", long 122°33'35", in SW 1/4 sec.27, T.20 S., R.2 E., Lane County, Hydrologic Unit 17090001, on left bank 0.5 mi downstream from Whitehead Creek, 4.2 mi downstream from North Fork of Middle Fork Willamette River, 7.0 mi northwest of Oakridge, and at mile 220.2.

DRAINAGE AREA.--924 mi².

PERIOD OF RECORD.--March 1911 to September 1912, July 1923 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as "near Hazeldell" 1911-12 and as "at Eula" 1923-50.

REVISED RECORDS.--WSP 694: 1925-28. WSP 814: Drainage area at Eula. WSP 1248: 1924, 1925(M), 1926-28, 1929(M), 1930, 1933, 1946(M). WSP 1398: 1927(M). WSP 1638: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 934.76 ft above National Geodetic Vertical Datum of 1929. Mar. 22, 1911, to Sept. 30, 1912, nonrecording gage at site 4.0 mi upstream, just downstream from North Fork at different datum. July 1, 1923, to Aug. 11, 1935, nonrecording gage and Aug. 12, 1935, to Sept. 30, 1950, water-stage recorder at site 4.0 mi downstream at different datum.

REMARKS.--Flow regulated since 1961 by Hills Creek Lake (station 14145100); slight regulation at times by logponds upstream from station. No diversion upstream from station.

AVERAGE DISCHARGE.--65 years, 2,785 ft³/s, 2,018,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,800 ft³/s Dec. 28, 1945, gage height, 18.8 ft, from floodmark, site and datum then in use, from rating curve extended above 39,000 ft³/s; minimum discharge, 322 ft³/s Aug. 30, 1961, caused by closing outlet gates at Hills Creek Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1861 and prior to beginning of record, 17.0 ft in February 1890 at site used 1923-50, from information by local resident, discharge, about 55,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	36	619	531	488	455	420	397
3	36	622	533	490	456	421	398
7	36	632	544	501	468	433	410
14	36	645	553	509	475	438	415
30	36	666	570	525	490	452	428
60	36	709	600	549	510	468	441
90	36	757	629	569	524	476	446
120	36	824	671	604	554	503	473
183	36	1190	891	771	686	604	556

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38	22000	34500	43500	55500	64800	74400
3	38	16500	24300	29800	37000	42500	48100
7	38	11800	16400	19300	23000	25600	28300
15	38	8610	11500	13300	15400	16900	18400
30	38	6830	8830	10000	11400	12400	13300
60	38	5580	7090	8020	9110	9890	10600
90	38	5050	6300	7030	7850	8410	8930

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1890-1960

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
15300	24000	37400	47000	59900	69900	80400	

Systematic n = 38 historical n = 100
Weighted skew = -0.049

WILLAMETTE RIVER BASIN

14148000 MIDDLE FORK WILLAMETTE RIVER BELOW NORTH FORK, NEAR OAKRIDGE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	825	660	582	522	460	421
3	25	852	692	616	558	496	458
7	25	891	726	645	582	514	472
14	25	932	755	670	603	532	488
30	25	1010	820	730	661	589	545
60	25	1190	968	868	793	715	667
90	25	1330	1110	1010	927	840	785
120	25	1450	1240	1140	1050	967	911
183	25	1790	1490	1360	1260	1160	1100

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	15100	22700	27200	32400	35900	39100
3	26	12200	18400	22500	27700	31500	35200
7	26	9850	14300	17200	20700	23400	25900
15	26	8120	11100	12900	14900	16300	17700
30	26	6680	9020	10400	11900	12900	13800
60	26	5350	7260	8430	9830	10800	11800
90	26	4810	6430	7380	8460	9210	9890

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14150000 MIDDLE FORK WILLAMETTE RIVER NEAR DEXTER, OR

LOCATION.--Lat $43^{\circ}56'45''$, long $122^{\circ}50'10''$, in SE 1/4 NW 1/4 sec.5, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, on right bank 0.6 mi upstream from Lost Creek, 2.0 mi northwest of Dexter, 2.6 mi downstream from Dexter Dam, and at mile 201.2.

DRAINAGE AREA.--1,001 mi².

PERIOD OF RECORD.--October 1946 to September 1954 (published as "at Lowell"), June 1955 to 1987. Monthly discharge only for October 1954 to June 1955, published in WSP 1738.

REVISED RECORDS.--WSP 1638: 1948(P).

GAGE.--Water-stage recorder. Datum of gage is 592.30 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 23, 1950, nonrecording gage and Aug. 23, 1950, to Sept. 30, 1954, at site 4.0 mi upstream at different datum, and June 9, 1955, to Feb. 18, 1977, at datum 3.00 ft higher.

REMARKS.--Flow regulated since 1953 by Lookout Point Lake (station 14149000), since 1955 by Dexter Lake (re-regulating), and since 1961 by Hills Creek Lake (station 14145100).

AVERAGE DISCHARGE.--41 years, 3,163 ft³/s, 2,292,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,600 ft³/s Jan. 18, 1953, gage height, 12.46 ft, site and datum then in use, from rating curve extended above 33,000 ft³/s; minimum daily discharge, 100 ft³/s Nov. 25, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 13.9 ft Dec. 28, 1945, former site and datum.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	889	509	340	229	137	93
3	25	1040	758	599	475	350	278
7	25	1140	841	657	510	362	279
14	25	1180	858	669	519	369	285
30	25	1230	896	709	561	413	328
60	25	1350	960	772	631	489	407
90	25	1540	1100	898	747	596	507
120	25	1700	1220	1010	861	710	621
183	25	2020	1560	1360	1200	1050	955

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	11800	15200	17100	19200	20500	21700
3	26	11600	14800	16400	18100	19100	20000
7	26	11000	14100	15600	17100	18000	18700
15	26	9530	12200	13600	15000	15900	16600
30	26	7490	9890	11400	13300	14600	16000
60	26	6070	8040	9330	11000	12200	13400
90	26	5400	7070	8100	9340	10200	11100

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14150300 FALL CREEK NEAR LOWELL, OR

LOCATION.--Lat 43°58'15", long 122°38'15", in SW 1/4 sec.25, T.18 S., R.1 E., Lane County, Hydrologic Unit 17090001, on right bank 0.1 mi downstream from North Fork, 8.0 mi northeast of Lowell, and at mile 14.4.

DRAINAGE AREA.--118 mi².

PERIOD OF RECORD.--August 1963 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 844.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--24 years, 413 ft³/s, 47.53 in/yr, 299,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft³/s Jan. 21, 1972, which may have been caused by release from breakup of temporary logjam 12 mi upstream, gage height, 11.84 ft; minimum discharge, 16 ft³/s Oct. 3, 4, 1965.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		25	21	19	17	16	--
1	23	25	21	19	18	17	--
3	23	25	21	19	18	17	--
7	23	26	22	20	19	18	--
14	23	27	23	21	20	18	--
30	23	31	25	23	21	19	--
60	23	38	31	28	25	23	--
90	23	45	36	32	29	26	--
120	23	56	43	38	34	30	--
183	23	110	81	69	61	53	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		4870	6940	8170	9580	10500	--
1	24	4870	6940	8170	9580	10500	--
3	24	3420	4920	5910	7140	8040	--
7	24	2420	3410	4060	4860	5450	--
15	24	1740	2370	2760	3230	3570	--
30	24	1330	1730	1970	2230	2410	--
60	24	1010	1350	1560	1810	1990	--
90	24	909	1180	1350	1560	1700	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4210	6590	9890	12000	14700	16500	--	

Systematic n = 24 historical n = 0
Weighted skew = -0.351

WILLAMETTE RIVER BASIN

14150800 WINBERRY CREEK NEAR LOWELL, OR

LOCATION.--Lat 43°54'50", long 122°41'15", in NE 1/4 SE 1/4 sec.16, T.19 S., R.1 E., Lane County, Hydrologic Unit 17090001, on right bank 0.9 mi upstream from Nelson Creek, 4.6 mi east of Lowell, and at mile 4.4.

DRAINAGE AREA.--43.9 mi².

PERIOD OF RECORD.--August 1963 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 863.70 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 118 ft³/s, 36.50 in/yr, 85,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s Dec. 22, 1964, gage height, 8.07 ft; minimum, 1.5 ft³/s Sept. 4, 5, 8-10, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	4.3	3.1	2.6	2.2	--	--
3	17	4.4	3.2	2.7	2.3	--	--
7	17	4.7	3.4	2.9	2.5	--	--
14	17	5.1	3.7	3.2	2.7	--	--
30	17	5.8	4.1	3.5	3.1	--	--
60	17	7.7	5.6	4.8	4.3	--	--
90	17	9.4	6.8	5.9	5.3	--	--
120	17	12	9.0	7.9	7.3	--	--
183	17	29	20	16	14	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	1300	1980	2430	2990	--	--
3	18	990	1490	1830	2270	--	--
7	18	687	1010	1240	1550	--	--
15	18	483	669	792	947	--	--
30	18	373	493	566	651	--	--
60	18	286	383	445	522	--	--
90	18	258	338	385	440	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1080	1740	2860	3740	5030	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.167

WILLAMETTE RIVER BASIN

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR

LOCATION.--Lat $43^{\circ}56'40''$, long $122^{\circ}46'25''$, in NW 1/4 SE 1/4 sec.2, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, on right bank 10 ft upstream from highway bridge, 1.1 mi downstream from Fall Creek Dam, 2.3 mi southeast of town of Fall Creek, and at mile 6.1.

DRAINAGE AREA.--186 mi².

PERIOD OF RECORD.--October to December 1911 (published as Big Fall Creek near Fall Creek; gage heights and discharge measurements only), September 1935 to 1987.

REVISED RECORDS.--WSP 1094: 1946(M). WSP 1248: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 637.81 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Oct. 1 to Dec. 31, 1911, nonrecording gage at site 0.25 mi downstream at different datum. Sept. 9, 1935, to Aug. 3, 1950, nonrecording gage at present site and datum.

REMARKS.--Flow regulated since 1966 by Fall Creek Lake (station 14150900). No diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 583 ft³/s, 42.56 in/yr, 422,400 acre-ft/yr, adjusted for storage in Fall Creek Lake since January 1965.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,700 ft³/s Dec. 11, 1956, gage height, 18.80 ft, from rating curve extended above 9,700 ft³/s; minimum discharge, 1.5 ft³/s Oct. 7, 8, 1965, probably as a result of regulation.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	32	25	23	20	18	17
3	29	32	26	23	21	19	18
7	29	33	27	24	22	19	18
14	29	35	28	25	22	20	18
30	29	39	31	27	25	22	21
60	29	46	36	31	28	24	22
90	29	53	41	36	32	28	26
120	29	71	51	42	36	30	26
183	29	158	110	89	74	59	51

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	7510	10700	12700	14900	16400	17800
3	30	5410	7550	8870	10400	11500	12600
7	30	3530	4860	5700	6700	7420	8110
15	30	2490	3240	3670	4160	4480	4780
30	30	1940	2500	2820	3170	3410	3620
60	30	1520	1930	2170	2450	2650	2830
90	30	1330	1680	1880	2120	2280	2430

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1965

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6430	10000	15200	18500	22800	25900	28900	

Systematic n = 30 historical n = 0
Weighted skew = -0.279

WILLAMETTE RIVER BASIN

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	37	23	17	12	7.9	--
3	20	37	23	17	12	8.1	--
7	20	41	26	20	15	11	--
14	20	45	29	21	16	11	--
30	20	58	33	24	18	13	--
60	20	86	46	33	24	17	--
90	20	140	87	67	55	44	--
120	20	204	122	92	72	54	--
183	20	342	255	212	180	146	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	3710	4360	4560	4690	4740	--
3	21	3510	4150	4360	4500	4560	--
7	21	3000	3730	4030	4280	4410	--
15	21	2290	2890	3170	3430	3570	--
30	21	1710	2170	2410	2640	2790	--
60	21	1380	1790	1990	2170	2270	--
90	21	1200	1540	1690	1820	1890	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14151500 LITTLE FALL CREEK NEAR FALL CREEK, OR

LOCATION.--Lat $43^{\circ}58'10''$, long $122^{\circ}45'20''$, in S-1/2 sec.25, T.18 S., R.1 W., Lane County, Hydrologic Unit 17090001, 4 mi east of Fall Creek Post Office and 4.5 mi upstream from mouth.

DRAINAGE AREA.--52.5 mi².

PERIOD OF RECORD.--October 1935 to September 1948.

GAGE.--Staff gage. Elevation of gage is 715 ft, by barometer.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1936-48), 179 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,110 ft³/s Dec. 28, 1945, gage height, 8.20 ft, from rating curve extended above 2,400 ft³/s on basis of velocity-area study; minimum observed, 10 ft³/s Dec. 1, 1936, Aug. 26, 27, 30, 31, Sept. 1, 1940.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1948

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	15	12	10	--	--	--
3	12	15	12	11	--	--	--
7	12	15	12	11	--	--	--
14	12	16	13	11	--	--	--
30	12	18	14	13	--	--	--
60	12	20	16	14	--	--	--
90	12	23	18	16	--	--	--
120	12	28	21	18	--	--	--
183	12	49	34	29	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1948

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13	1980	2980	3600	--	--	--
3	13	1460	2240	2750	--	--	--
7	13	1030	1510	1800	--	--	--
15	13	766	1060	1220	--	--	--
30	13	571	770	882	--	--	--
60	13	459	602	682	--	--	--
90	13	408	534	607	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1948

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1480	2470	4250	5710	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = 0.175

WILLAMETTE RIVER BASIN

14152000 MIDDLE FORK WILLAMETTE RIVER AT JASPER, OR

LOCATION.--Lat 43°59'55", long 122°54'20", in SW 1/4 SW 1/4 sec.14, T.18 S., R.2 W., Lane County, Hydrologic Unit 17090001, on right bank 25 ft downstream from highway bridge at Jasper, 0.1 mi downstream from Hills Creek, and at mile 195.0.

DRAINAGE AREA.--1,340 mi².

PERIOD OF RECORD.--September 1905 to February 1912, July 1913 to March 1917, October 1952 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1288: 1907-8, 1910-12, 1914-16, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 513.45 ft above National Geodetic Vertical Datum of 1929. September 1905 to February 1912, and July 1913 to March 1917, nonrecording gage at approximately same site at datum about 1.5 ft higher, Oct. 22, 1952, to Sept. 30, 1953, nonrecording gage at site 25 ft upstream at same datum.

REMARKS.--Flow regulated since 1953 by Lookout Point Lake (station 14149000), since 1961 by Hills Creek Lake (station 14145100), and since 1966 by Fall Creek Lake (station 14150900).

AVERAGE DISCHARGE.--44 years (water years 1906-11, 1914-16, 1953-87), 4,115 ft³/s, 2,981,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s Nov. 23, 1909, gage height, 17.4 ft, datum then in use, from graph based on gage readings, from rating curve extended above 42,000 ft³/s; minimum discharge, 366 ft³/s Dec. 5, 1954.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	1350	1020	826	670	509	--
3	20	1370	1030	836	678	515	--
7	20	1420	1050	845	686	523	--
14	20	1470	1080	877	721	561	--
30	20	1570	1160	955	799	640	--
60	20	1800	1360	1150	987	825	--
90	20	2030	1500	1260	1080	893	--
120	20	2250	1650	1380	1180	979	--
183	20	2630	2060	1810	1610	1420	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	16800	19100	19600	19800	19900	--
3	21	16100	18600	19200	19600	19700	--
7	21	14700	17700	18700	19400	19600	--
15	21	12700	15700	16900	18000	18500	--
30	21	10600	13300	14600	15800	16400	--
60	21	8550	11000	12200	13600	14400	--
90	21	7580	9700	10800	11900	12600	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14152500 COAST FORK WILLAMETTE RIVER AT LONDON, OR

LOCATION.--Lat $43^{\circ}38'30''$, long $123^{\circ}05'05''$, in SW 1/4 sec.20, T.22 S., R.3 W., Lane County, Hydrologic Unit 17090002, on left bank 0.6 mi north of London, 11.0 mi south of Cottage Grove, and at mile 35.9.

DRAINAGE AREA.--72.1 mi².

PERIOD OF RECORD.--September 1935 to September 1987 (discontinued).

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 852.58 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 18 to Oct. 17, 1935, nonrecording gage at same site and datum.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--52 years, 201 ft³/s, 37.86 in/yr, 145,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s Dec. 22, 1964, gage height, 13.37 ft, from rating curve extended above 3,200 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 6.8 ft³/s Aug. 18, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	13	10	9.2	8.4	7.6	7.1
3	51	13	10	9.4	8.6	7.7	7.2
7	51	13	11	9.7	8.9	8.0	7.5
14	51	14	12	10	9.4	8.5	7.9
30	51	15	12	11	10	9.5	9.0
60	51	18	15	13	12	11	11
90	51	20	17	15	14	13	12
120	51	25	20	18	16	14	13
183	51	47	35	30	26	22	20

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	2610	3960	4840	5900	6670	7400
3	52	1950	2810	3330	3920	4310	4670
7	52	1300	1850	2190	2580	2850	3100
15	52	906	1240	1430	1660	1820	1970
30	52	689	907	1030	1160	1250	1330
60	52	544	712	803	900	962	1020
90	52	471	611	690	777	834	886

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
2330	3660	5750	7290	9380	11000	12800	

Systematic n = 52 historical n = 0
Weighted skew = -0.004

WILLAMETTE RIVER BASIN

14153500 COAST FORK WILLAMETTE RIVER BELOW COTTAGE GROVE DAM, OR

LOCATION.--Lat 43°43'15", long 123°02'55", in NE 1/4 sec.28, T.21 S., R.3 W., Lane County, Hydrologic Unit 17090002, on right bank at bridge 0.3 mi downstream from Cottage Grove Dam, 5.5 mi south of Cottage Grove, and at mile 29.4.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--January 1939 to 1987. Prior to October 1944, published as "near Cottage Grove."

REVISED RECORDS.--WSP 1448: 1949(M).

GAGE.--Water-stage recorder. Datum of gage is 711.00 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Jan. 1 to Oct. 12, 1939, nonrecording gage and Oct. 13, 1939, to Sept. 30, 1944, water-stage recorder at several sites and datums 0.8 mi downstream.

REMARKS.--Flow regulated since 1942 by Cottage Grove Lake (station 14153000). Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--48 years, 273 ft³/s, 35.65 in/yr, 197,800 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft³/s Dec. 24, 1964, gage height, 11.83 ft; no flow July 5-7, 1945, and for part of Aug. 24, 1947.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1944-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	44	41	25	16	10	0.0	0.0
3	44	42	27	19	13	8.1	5.7
7	44	45	30	22	16	11	7.6
14	44	46	33	26	20	15	12
30	44	49	37	31	26	21	18
60	44	56	44	38	33	28	25
90	44	67	52	45	39	33	30
120	44	78	60	51	45	39	35
183	44	116	96	87	80	73	69

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1943-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	45	2720	3080	3140	3160	3170	3170
3	45	2480	2890	2980	3010	3020	3020
7	45	1910	2490	2720	2910	2960	2980
15	45	1290	1770	2020	2280	2440	2580
30	45	962	1290	1450	1630	1730	1820
60	45	737	977	1090	1190	1250	1300
90	45	638	835	920	992	1030	1050

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14154500 ROW RIVER ABOVE PITCHER CREEK, NEAR DORENA, OR

LOCATION.--Lat $43^{\circ}44'10''$, long $122^{\circ}52'20''$, in NE 1/4 sec.24, T.21 S., R.2 W., Lane County, Hydrologic Unit 17090002, on right bank 0.5 mi upstream from Pitcher Creek, 1.2 mi northwest of Dorena, and at mile 13.2.DRAINAGE AREA.--211 mi².

PERIOD OF RECORD.--September 1935 to 1987. Prior to October 1949, published as "at Star."

GAGE.--Water-stage recorder. Datum of gage is 856.16 ft above National Geodetic Vertical Datum of 1929. Sept. 16, 1935, to Oct. 17, 1938, nonrecording gage at site 450 ft upstream at datum 1.00 ft higher.

REMARKS.--Slight regulation caused by upstream logponds. No diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 601 ft³/s, 38.68 in/yr, 435,400 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft³/s Dec. 22, 1964, gage height, 18.19 ft, from rating curve extended above 12,000 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 10 ft³/s Sept. 24, 25, 1951, Oct. 7, 8, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	19	15	13	12	10	9.8
3	51	19	15	13	12	11	10
7	51	20	16	14	13	12	11
14	51	22	17	15	14	12	12
30	51	24	19	17	15	14	13
60	51	30	23	20	18	17	16
90	51	37	28	24	22	19	18
120	51	52	38	32	27	23	21
183	51	139	93	74	61	48	41

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	8260	12100	14600	17500	19500	21400
3	52	5870	8430	10000	12000	13300	14600
7	52	3860	5430	6410	7600	8440	9250
15	52	2680	3610	4160	4790	5220	5610
30	52	2030	2650	3000	3400	3660	3910
60	52	1570	2040	2320	2630	2850	3050
90	52	1380	1760	1990	2250	2420	2590

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7790	11600	16800	20200	24400	27500	30400	

Systematic n = 52 historical n = 0
Weighted skew = -0.244

WILLAMETTE RIVER BASIN

14155500 ROW RIVER NEAR COTTAGE GROVE, OR

LOCATION.--Lat $43^{\circ}47'35''$, long $122^{\circ}59'25''$, in NE 1/4 sec.36, T.20 S., R.3 W., Lane County, Hydrologic Unit 17090002, on right bank 1.7 mi upstream from Mosby Creek, 2.1 mi downstream from Dorena Dam, 3.5 mi east of Cottage Grove, and at mile 5.5.

DRAINAGE AREA.--270 mi².

PERIOD OF RECORD.--January 1939 to 1987. Prior to October 1947, published as "near Dorena."

GAGE.--Water-stage recorder. Datum of gage is 685.24 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Jan. 5 to Oct. 12, 1939, nonrecording gage at site 180 ft upstream at datum 1.00 ft higher.

REMARKS.--Flow regulated since October 1949 by Dorena Lake (station 14155000). No diversion upstream from station.

AVERAGE DISCHARGE.--48 years, 754 ft³/s, 37.92 in/yr, 546,300 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s Dec. 28, 1945, gage height, 18.20 ft; minimum discharge, 0.20 ft³/s Sept. 25 to Oct. 7, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	25	19	17	--	--	--
3	10	26	19	17	--	--	--
7	10	27	20	18	--	--	--
14	10	31	23	19	--	--	--
30	10	34	26	22	--	--	--
60	10	40	31	27	--	--	--
90	10	48	35	30	--	--	--
120	10	67	47	40	--	--	--
183	10	173	107	80	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	8580	13300	16500	--	--	--
3	10	6150	9440	11700	--	--	--
7	10	4040	6140	7580	--	--	--
15	10	2810	4070	4930	--	--	--
30	10	2150	2940	3420	--	--	--
60	10	1670	2280	2680	--	--	--
90	10	1500	2020	2360	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1949

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7240	11100	17300	22000	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.189

WILLAMETTE RIVER BASIN

14155500 ROW RIVER NEAR COTTAGE GROVE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1951-1987

[Short-duration statistics uncertain due to excessive skew]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	37	129	86	60	40	23	15
60	37	153	106	85	70	56	47
90	37	209	147	119	99	79	68
120	37	256	183	146	118	91	75
183	37	328	258	224	197	170	153

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1950-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	38	4770	6150	7370	9310	11100	13200
3	38	4560	5880	6880	8290	9460	10700
7	38	4310	5460	6040	6630	6990	7290
15	38	3280	4320	4920	5590	6050	6470
30	38	2540	3280	3700	4170	4480	4770
60	38	1930	2530	2880	3270	3530	3770
90	38	1670	2200	2490	2800	2990	3170

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14156000 MOSBY CREEK NEAR COTTAGE GROVE, OR

LOCATION.--Lat $43^{\circ}44'40''$, long $122^{\circ}59'00''$, in NW 1/4 sec.18, T.21 S., R.2 W., Lane County, Hydrologic Unit 17090002, on right bank 0.2 mi upstream from Kizer Creek and 5 mi southeast of Cottage Grove.

DRAINAGE AREA.--85 mi, approximately.

PERIOD OF RECORD.--February 1936 to September 1946.

GAGE.--Staff gage. Elevation of gage is 750 ft, from topographic map.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1937-46), $191 \text{ ft}^3/\text{s}$.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, $8,520 \text{ ft}^3/\text{s}$ Dec. 28, 1945, gage height, 10.4 ft from floodmark, from rating curve extended above $2,400 \text{ ft}^3/\text{s}$; minimum, $3 \text{ ft}^3/\text{s}$ Aug. 15, to Sept. 2, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1938-1946

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1937-1946

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	10	2720	4340	5610	--	--	--	--
3	10	1950	3030	3840	--	--	--	--
7	10	1290	1940	2420	--	--	--	--
15	10	898	1330	1660	--	--	--	--
30	10	677	948	1130	--	--	--	--
60	10	565	791	930	--	--	--	--
90	10	479	675	804	--	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1946

DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2230	3560	5810	7590	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.186

WILLAMETTE RIVER BASIN

14156500 MOSBY CREEK AT MOUTH, NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°46'35", long 122°59'55", in SE 1/4 NW 1/4 sec.1, T.21 S., R.3 W., Lane County, Hydrologic Unit 17090002, on left bank 3.5 mi southeast of Cottage Grove and at mile 1.0.

DRAINAGE AREA.--95.3 mi².

PERIOD OF RECORD.--September 1946 to September 1981. Monthly discharge only September 1946, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 676.62 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--35 years, 241 ft³/s, 34.34 in/yr, 174,600 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s Dec. 22, 1964, gage height, 13.37 ft, from rating curve extended above 4,600 ft³/s on basis of slope-area measurement of peak flow; minimum, 2.8 ft³/s Aug. 15, 1973, Sept. 24, 1974.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1948-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	32	6.1	4.4	3.7	3.3	2.8	2.5
3	32	6.3	4.6	3.9	3.4	3.0	2.7
7	32	6.7	4.9	4.2	3.7	3.2	2.9
14	32	7.3	5.4	4.6	4.0	3.4	3.1
30	32	8.4	6.1	5.2	4.5	3.9	3.5
60	32	10	7.7	6.6	5.8	5.0	4.5
90	32	13	9.3	8.0	7.2	6.4	5.9
120	32	18	13	12	11	9.3	8.6
183	32	43	31	26	23	20	18

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1947-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	3610	5300	6310	7450	8210	8900
3	34	2710	3790	4400	5070	5490	5860
7	34	1790	2480	2870	3320	3620	3890
15	34	1190	1580	1800	2050	2220	2370
30	34	901	1150	1280	1410	1500	1570
60	34	684	887	997	1110	1190	1260
90	34	591	753	843	942	1010	1060

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1947-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3190	4830	7180	8770	10800	12300	13800	

Systematic n = 35 historical n = 0
Weighted skew = -0.165

WILLAMETTE RIVER BASIN

14157000 COAST FORK WILLAMETTE RIVER AT SAGINAW, OR

LOCATION.--Lat 43°50'05", long 123°02'30", in NW 1/4 sec.15, T.20 S., R.3 W., Lane County, Hydrologic Unit 17090002, on right bank at Saginaw, 1.0 mi downstream from Row River.

DRAINAGE AREA.--529 mi².

PERIOD OF RECORD.--October 1923 to September 1951. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 595.76 ft above National Geodetic Vertical Datum of 1929. Prior to May 10, 1930, chain gage at site 50 ft upstream at different datum and May 10, 1930, to Oct. 12, 1938, at present datum.

REMARKS.--Small diversions and regulation by log ponds upstream from station; regulation by Cottage Grove Reservoir since Oct. 31, 1942, and Dorena Reservoir since Oct. 11, 1949.

AVERAGE DISCHARGE.--28 years (water years 1924-51), 1,236 ft³/s, 894,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft³/s Dec. 28, 1945, gage height, 12.38 ft, from rating curve extended above 24,000 ft³/s; minimum observed, 15 ft³/s Aug. 1, Sept. 4, 1928.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	16	32	22	19	17	--	--	
3	16	33	24	20	18	--	--	
7	16	35	26	22	20	--	--	
14	16	38	29	26	24	--	--	
30	16	43	34	31	29	--	--	
60	16	51	39	36	34	--	--	
90	16	59	47	43	41	--	--	
120	16	74	58	53	51	--	--	
183	16	173	122	105	94	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1924-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	18	13900	18200	21000	24600	--	--	
3	18	10500	14000	16200	19100	--	--	
7	18	7340	9460	10700	12000	--	--	
15	18	5120	6640	7560	8620	--	--	
30	18	3870	4930	5550	6240	--	--	
60	18	2990	3710	4110	4550	--	--	
90	18	2570	3250	3640	4080	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1942

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
13900	18200	24300	28400	33700	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = 0.176

WILLAMETTE RIVER BASIN

14157500 COAST FORK WILLAMETTE RIVER NEAR GOSHEN, OR

LOCATION.--Lat 43°58'50", long 122°57'55", in NW 1/4 sec.29, T.18 S., R.2 W., Lane County, Hydrologic Unit 17090002, on right bank at downstream side of bridge on State Highway 58, 2.5 mi southeast of Goshen, and at mile 6.4.

DRAINAGE AREA.--642 mi².

PERIOD OF RECORD.--August 1905 to February 1912, October 1950 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1218: Drainage area. WSP 1248: 1905-12. WSP 1935: 1956.

GAGE.--Water-stage recorder. Datum of gage is 473.80 ft above National Geodetic Vertical Datum of 1929. Aug. 23, 1905, to Feb. 7, 1912, nonrecording gage at site 600 ft upstream at different datum.

REMARKS.--Flow regulated since 1942 by Cottage Grove Lake (station 14153000) and since 1949 by Dorena Lake (station 14155000). Several small diversions for logponds and irrigation upstream from station.

AVERAGE DISCHARGE.--43 years (water years 1906-11, 1951-87), 1,640 ft³/s, 1,188,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft³/s Nov. 22, 1909, gage height, 19.5 ft, site and datum then in use, from rating curve extended above 15,000 ft³/s; minimum discharge, 36 ft³/s Sept. 29, 30, Oct. 11, 12, 1908.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1952-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	36	155	128	115	104	93	86
3	36	159	133	121	111	100	94
7	36	167	141	128	117	106	99
14	36	175	146	132	122	111	104
30	36	197	160	145	133	122	111
60	36	258	192	165	145	126	115
90	36	340	254	216	189	161	144
120	36	405	316	273	239	204	182
183	36	525	431	391	362	334	316

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1951-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	37	12900	17600	20300	23400	25400	27200
3	37	10500	14000	15900	18100	19500	20800
7	37	9390	12200	13600	14900	15600	16100
15	37	7430	9740	10900	12000	12700	13200
30	37	5800	7530	8390	9240	9740	10200
60	37	4500	5850	6500	7120	7470	7740
90	37	3870	5020	5560	6080	6370	6600

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14158000 WILLAMETTE RIVER AT SPRINGFIELD, OR

LOCATION.--Lat $44^{\circ}02'45''$, long $123^{\circ}01'40''$, in SE 1/4 sec.34, T.17 S., R.3 W., Lane County, Hydrologic Unit 17090003, near center of span on downstream side of bridge on U.S. Highway 126 at Springfield, and at mile 185.6.

DRAINAGE AREA.--2,030 mi², approximately.

PERIOD OF RECORD.--October 1911 to December 1913, June 1919 to September 1957. Monthly discharge only for October 1911, published in WSP 1318. Published as "at Eugene" June 1919 to September 1928; gage-height records collected at site at Eugene since 1878 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 423.77 ft above National Geodetic Vertical Datum of 1929. Nov. 27, 1911, to Dec. 31, 1913, chain gage on bridge 0.2 mi upstream at different datum. June 1, 1919, to Nov. 24, 1928, staff gage at site 3.4 mi downstream at datum 23.92 ft lower than described gage.

REMARKS.--Flow regulated by Cottage Grove (since 1942), Dorena (since 1949), and Lookout Point Reservoirs (since 1954). Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--40 years (water years 1912-13, 1920-57), 5,453 ft³/s, 3,948,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 140,000 ft³/s Dec. 29, 1945, gage height, 20.9 ft, from rating curve extended above 93,000 ft³/s; minimum, 500 ft³/s Aug. 11, 1926.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	650	562	527	503	480	--
3	23	661	574	540	515	492	--
7	23	674	584	548	522	496	--
14	23	691	599	562	536	511	--
30	23	734	628	583	550	518	--
60	23	795	666	616	581	549	--
90	23	869	709	645	599	555	--
120	23	962	765	690	640	592	--
183	23	1530	1130	985	886	794	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1942

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	44300	58400	66800	76600	83400	89700
3	25	35000	45400	51200	57600	61800	65500
7	25	25300	32800	36800	40900	43500	45700
15	25	19300	24600	27600	30700	32700	34500
30	25	14600	17800	19500	21100	22100	22900
60	25	11300	13900	15400	17200	18300	19400
90	25	9870	12100	13400	14900	15800	16700

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1912-1942

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
38000	50900	68100	79100	92700	102700	112600	

Systematic n = 25 historical n = 0
Weighted skew = -0.040

WILLAMETTE RIVER BASIN

14158500 MCKENZIE RIVER AT OUTLET OF CLEAR LAKE, OR

LOCATION.--Lat 44°21'40", long 121°59'40", in SE 1/4 sec.8, T.14 S., R.7 E., Linn County, Hydrologic Unit 17090004, Willamette National Forest, on west bank of Clear Lake in narrow channel, 150 ft upstream from outlet and at mile 89.6.

DRAINAGE AREA.--92.4 mi², hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--June 1912 to September 1915, October 1947 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1288: 1949. WSP 1318: 1915(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,015.32 ft above National Geodetic Vertical Datum of 1929 (levels by Eugene Water and Electric Board). June 20, 1912, to July 31, 1915, nonrecording gage at site 1.0 mi north at different datum.

REMARKS.--Flow regulated by natural storage in lake. At high stages an undetermined flow enters numerous sinkholes in lava rock along south edge of lake upstream from station.

AVERAGE DISCHARGE.--43 years, 467 ft³/s, 68.63 in/yr, 338,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,300 ft³/s Dec. 23, 1964, gage height, 8.15 ft; minimum discharge, 137 ft³/s Sept. 23, 1977, Nov. 4, 1980.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1914-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	213	176	159	146	132	124
3	41	214	177	160	147	133	125
7	41	215	178	161	148	134	125
14	41	218	180	163	149	135	126
30	41	226	186	168	154	139	130
60	41	240	196	176	160	144	135
90	41	254	206	184	168	151	140
120	41	272	219	195	177	159	148
183	41	318	259	234	216	198	187

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1913-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	43	1350	1840	2160	2570	2880	3190
3	43	1240	1640	1900	2230	2470	2700
7	43	1120	1450	1650	1910	2100	2280
15	43	1020	1250	1390	1540	1650	1750
30	43	904	1090	1190	1300	1370	1430
60	43	778	934	1020	1110	1160	1220
90	43	712	841	908	976	1020	1060

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14158790 SMITH RIVER ABOVE SMITH RIVER RESERVOIR, NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat $44^{\circ}20'05''$, long $122^{\circ}02'45''$, in SW $1/4$ SW $1/4$ sec. 24, T. 14 S., R. 6 E., Linn County, Hydrologic Unit 17090004, in Willamette National Forest, on right bank 200 ft upstream from Smith River Reservoir, 0.7 mi downstream from Browder Creek, 10 mi north of town of Belknap Springs, and at mile 4.4.

DRAINAGE AREA.--16.2 mi².

PERIOD OF RECORD.--October 1960 to 1987.

REVISED RECORDS.--WDR OR 80-2: 1978(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,610.00 ft above National Geodetic Vertical Datum of 1929 (levels by Eugene Water and Electric Board). Prior to Sept. 10, 1964, at datum 1.56 ft higher.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--27 years, 91.0 ft³/s, 76.28 in/yr, 65,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,160 ft³/s Dec. 22, 1964, gage height, 11.9 ft, from floodmark, from rating curve extended above 560 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 2.5 ft³/s Sept. 15-18, 1980.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	3.9	3.3	3.0	2.8	2.6	2.5
3	26	3.9	3.3	3.0	2.8	2.6	2.5
7	26	4.0	3.4	3.1	2.9	2.7	2.6
14	26	4.2	3.5	3.3	3.1	2.9	2.7
30	26	4.7	3.9	3.6	3.4	3.2	3.1
60	26	5.6	4.6	4.3	4.1	3.9	3.8
90	26	7.0	5.6	5.0	4.6	4.2	4.0
120	26	11	7.7	6.5	5.7	4.9	4.4
183	26	31	21	16	13	10	8.8

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	788	1110	1350	1660	1900	2160
3	27	626	856	1010	1210	1360	1510
7	27	475	624	717	830	911	990
15	27	350	428	474	525	561	594
30	27	270	324	356	393	418	443
60	27	208	247	268	292	308	323
90	27	185	218	236	255	268	279

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
760	1040	1520	1900	2460	2950	3500	

Systematic n = 27 historical n = 0
Weighted skew = 0.660

WILLAMETTE RIVER BASIN

14158850 MCKENZIE RIVER BELOW TRAIL BRIDGE DAM, NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat $44^{\circ}16'05''$, long $122^{\circ}02'55''$, in T.15 S., R.6 E., (unsurveyed), Linn County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 0.4 mi downstream from Trail Bridge Dam, 0.5 mi upstream from Anderson Creek, 5 mi north of town of Belknap Springs, and at mile 81.5.

DRAINAGE AREA.--184 mi².

PERIOD OF RECORD.--October 1959 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,980.00 ft above National Geodetic Vertical Datum of 1929 (levels by Eugene Water and Electric Board). Prior to Oct. 11, 1963, at datum 5.60 ft higher.

REMARKS.--Flow regulated since 1963 by Smith River Reservoir (station 14158795). Diurnal fluctuations by powerplants and by Trail Bridge reregulating reservoir upstream. Water is diverted from McKenzie River in SW 1/4 sec.20, T.14 S., R.7 E., to Smith River Reservoir and returned to river upstream from station.

AVERAGE DISCHARGE.--28 years, 1,027 ft³/s, 75.80 in/yr, 744,100 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s Dec. 22, 1964, gage height, 12.45 ft, from rating curve extended above 3,700 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 185 ft³/s Feb. 3, 1963; minimum daily, 425 ft³/s Nov. 23, 1964.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	581	519	487	462	434	--
3	23	595	536	508	486	463	--
7	23	608	550	524	505	486	--
14	23	625	565	538	518	498	--
30	23	640	577	548	527	504	--
60	23	657	590	560	537	513	--
90	23	676	605	572	547	521	--
120	23	701	623	587	560	531	--
183	23	782	688	646	615	582	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	2710	3900	4770	5980	6960	--
3	24	2440	3440	4200	5300	6210	--
7	24	2140	2890	3440	4200	4820	--
15	24	1880	2380	2710	3130	3450	--
30	24	1670	2010	2230	2490	2670	--
60	24	1470	1740	1900	2090	2230	--
90	24	1380	1610	1740	1900	2010	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14159000 MCKENZIE RIVER AT MCKENZIE BRIDGE, OR

LOCATION.--Lat $44^{\circ}10'45''$, long $122^{\circ}07'45''$, on line between NE 1/4 and NW 1/4 sec.18, T.16 S., R.6 E., Lane County, Hydrologic Unit 17090004, Willamette National Forest, on left bank 1.0 mi upstream from Glen Creek, 1.7 mi east of town of McKenzie Bridge, and at mile 69.9.

DRAINAGE AREA.--348 mi² at cableway 1.2 mi upstream, where all discharge measurements are made.

PERIOD OF RECORD.--August 1910 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as "near McKenzie Bridge" August 1910 to September 1911 and October 1914 to September 1916.

REVISED RECORDS.--WSP 1248: 1911-16, 1920-25. WSP 1448: 1919. WSP 1638: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,419.04 ft above National Geodetic Vertical Datum of 1929. Prior to June 2, 1932, nonrecording gage at several sites within 2 mi of present site at various datums.

REMARKS.--Flow regulated since March 1963 by Smith River Reservoir (Carmen-Smith Project) 12 mi upstream (station 14158795). No diversion upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--77 years, 1,686 ft³/s, 1,222,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,100 ft³/s Dec. 22, 1964, gage height, 10.36 ft, from rating curve extended above 7,100 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 805 ft³/s Oct. 20, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1912-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	1040	927	872	827	778	746
3	51	1040	929	873	828	779	747
7	51	1040	932	876	831	782	750
14	51	1050	939	883	837	787	755
30	51	1070	952	893	845	793	759
60	51	1100	971	907	857	803	769
90	51	1130	993	926	873	816	780
120	51	1170	1020	952	897	838	800
183	51	1290	1110	1020	960	893	851

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1911-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	5280	7370	8740	10500	11700	13000
3	52	4520	6150	7190	8480	9420	10300
7	52	3830	4930	5580	6330	6850	7340
15	52	3240	3990	4410	4890	5200	5500
30	52	2790	3320	3610	3910	4110	4290
60	52	2460	2870	3080	3320	3460	3590
90	52	2280	2630	2810	3010	3130	3240

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1964

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4360	6390	9340	11400	14000	16100	18100	

Systematic n = 51 historical n = 0
Weighted skew = -0.029

WILLAMETTE RIVER BASIN
14159000 MCKENZIE RIVER AT MCKENZIE BRIDGE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	1000	924	891	867	842	--
3	23	1020	936	902	877	852	--
7	23	1030	947	912	888	863	--
14	23	1050	965	930	904	877	--
30	23	1070	985	947	919	890	--
60	23	1090	1000	964	935	904	--
90	23	1120	1030	983	951	918	--
120	23	1160	1060	1010	974	938	--
183	23	1300	1160	1110	1060	1020	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	5680	8040	9560	11400	12800	--
3	24	4870	6920	8340	10200	11600	--
7	24	4080	5520	6480	7710	8630	--
15	24	3440	4360	4930	5620	6110	--
30	24	2930	3560	3940	4390	4710	--
60	24	2540	3030	3330	3690	3940	--
90	24	2390	2810	3060	3360	3570	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14159200 SOUTH FORK MCKENZIE RIVER ABOVE COUGAR LAKE, NEAR RAINBOW, OR

LOCATION.--Lat $44^{\circ}02'50''$, long $122^{\circ}13'00''$, in T.17 S., R.5 E., (unsurveyed), Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on right bank 100 ft upstream from Tipsoo Creek, 8.0 mi south of Rainbow, 9.0 mi southeast of town of Blue River, and at mile 10.4.

DRAINAGE AREA.-- 160 mi^2 at cableway 0.2 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--October 1957 to September 1987 (discontinued). Prior to October 1971, published as South Fork McKenzie River above Cougar Reservoir.

REVISED RECORDS.--WSP 1638: Drainage area. WSP 1935: 1958 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,709.51 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--30 years, $638 \text{ ft}^3/\text{s}$, 54.15 in/yr, 462,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, $18,400 \text{ ft}^3/\text{s}$ Dec. 22, 1964, gage height, 20.06 ft, from floodmark, from rating curve extended above $7,600 \text{ ft}^3/\text{s}$, on basis of slope-area measurement of peak flow; minimum discharge, $171 \text{ ft}^3/\text{s}$ Sept. 16, 17, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	207	192	185	179	172	168
3	29	208	193	185	180	173	169
7	29	209	194	186	180	174	169
14	29	212	196	189	183	176	172
30	29	217	201	193	187	181	176
60	29	226	209	201	194	188	183
90	29	235	217	209	203	196	191
120	29	249	227	218	212	206	203
183	29	338	290	270	257	244	237

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	4030	6120	7570	9470	10900	12400
3	30	3090	4810	6190	8260	10100	12100
7	30	2340	3430	4260	5470	6490	7600
15	30	1790	2410	2860	3480	3960	4480
30	30	1420	1840	2130	2530	2850	3180
60	30	1160	1460	1670	1930	2140	2350
90	30	1070	1320	1480	1680	1830	1970

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1958-1987

DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3430	4950	7420	9320	12000	14300	16700

Systematic n = 30 historical n = 0
Weighted skew = 0.353

WILLAMETTE RIVER BASIN

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR

LOCATION.--Lat 44°08'10", long 122°14'50", in NE 1/4 sec.31, T.16 S., R.5 E., Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on right bank 0.2 mi upstream from Cougar Creek, 0.6 mi downstream from Cougar Dam, 2.1 mi south of Rainbow, and at mile 3.9.

DRAINAGE AREA.--208 mi².

PERIOD OF RECORD.--October 1947 to 1987.

REVISED RECORDS.--WSP 1638: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,236.42 ft above National Geodetic Vertical Datum of 1929 (Federal Highway Administration bench mark). Oct. 1 to Nov. 4, 1947, nonrecording gage at site 40 ft upstream at datum 0.80 ft higher.

REMARKS.--Flow regulated since 1963 by Cougar Lake (station 14159400), usable capacity, 165,000 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--40 years, 863 ft³/s, 56.34 in/yr, 625,200 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s Dec. 11, 1956, gage height, 8.66 ft, from rating curve extended above 8,100 ft³/s; maximum gage height, 8.90 ft Dec. 22, 1955 (backwater from debris); minimum discharge, 17 ft³/s Nov. 18, 1965; minimum daily, 85 ft³/s Apr. 26-28, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s Dec. 28, 1945, gage height, 8.8 ft, from floodmarks, at Corps of Engineers gage at site 40 ft upstream at datum 0.80 ft higher; gage height at present site and datum, about 9.3 ft, computed by Corps of Engineers.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1949-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	233	214	206	199	--	--
3	14	235	216	207	200	--	--
7	14	238	218	209	201	--	--
14	14	241	221	212	205	--	--
30	14	248	229	221	214	--	--
60	14	261	242	234	227	--	--
90	14	277	254	244	237	--	--
120	14	298	267	255	246	--	--
183	14	447	364	333	313	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1948-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	6950	10500	13000	16100	--	--
3	15	5380	7480	8830	10500	--	--
7	15	3790	4910	5630	6510	--	--
15	15	2740	3460	3940	4540	--	--
30	15	2240	2830	3240	3780	--	--
60	15	1830	2210	2460	2770	--	--
90	15	1660	1940	2120	2340	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1946-1962

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5940	9370	15000	19300	25400	--	--	

Systematic n = 15 historical n = 20
Generalized 17b skew = 0.116

WILLAMETTE RIVER BASIN

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	177	126	104	88	72	--
3	23	206	145	117	96	75	--
7	23	236	164	129	104	78	--
14	23	247	172	135	108	80	--
30	23	279	186	142	111	80	--
60	23	342	224	174	138	105	--
90	23	448	309	245	199	154	--
120	23	477	338	275	230	185	--
183	23	587	468	414	374	332	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	4600	5480	5720	5860	5900	--
3	24	4230	5300	5690	5970	6100	--
7	24	3410	4540	5100	5650	5970	--
15	24	2550	3530	4150	4920	5490	--
30	24	1940	2570	3000	3550	3970	--
60	24	1510	2000	2360	2860	3260	--
90	24	1340	1770	2060	2440	2740	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14161100 BLUE RIVER BELOW TIDBITS CREEK, NEAR BLUE RIVER, OR

LOCATION.--Lat $44^{\circ}13'05''$, long $122^{\circ}15'50''$, in SE $1/4$ NE $1/4$ sec.36, T.15 S., R.4 E., Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 0.2 mi downstream from Tidbits Creek, 5.5 mi northeast of town of Blue River, and at mile 8.5.

DRAINAGE AREA.--45.8 mi².

PERIOD OF RECORD.--September 1963 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,386.90 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--24 years, 257 ft³/s, 76.20 in/yr, 186,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft³/s Dec. 22, 1964, gage height, 15.32 ft, from floodmarks, from rating curve extended above 2,800 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 7.1 ft³/s Sept. 9, 23-25, 30, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	12	9.9	9.1	8.6	8.1	--
3	23	12	10	9.2	8.7	8.2	--
7	23	12	10	9.4	8.9	8.3	--
14	23	13	11	9.9	9.3	8.7	--
30	23	14	12	11	10	9.6	--
60	23	17	14	13	12	11	--
90	23	22	17	15	14	12	--
120	23	30	22	19	17	15	--
183	23	69	50	42	36	31	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	3080	4570	5590	6890	7870	--
3	23	2300	3370	4100	5020	5720	--
7	23	1630	2280	2680	3160	3490	--
15	23	1110	1480	1690	1930	2090	--
30	23	829	1090	1240	1410	1530	--
60	23	628	824	952	1110	1230	--
90	23	559	720	824	953	1050	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2900	4060	5970	7470	9630	11500	--	

Systematic n = 24 historical n = 0
Weighted skew = 0.500

WILLAMETTE RIVER BASIN

14161500 LOOKOUT CREEK NEAR BLUE RIVER, OR

LOCATION.--Lat 44°12'35", long 122°15'20", in T.15 or 16 S., R.5 E. (unsurveyed), Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 6.0 mi northeast of town of Blue River, and at mile 0.5.

DRAINAGE AREA.--24.1 mi².

PERIOD OF RECORD.--August 1949 to September 1955, September 1963 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,377.76 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--30 years, 125 ft³/s, 70.44 in/yr, 90,560 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft³/s Dec. 22, 1964, gage height, 8.88 ft, from rating curve extended above 1,300 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 4.8 ft³/s Sept. 16, 17, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1951-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	28	9.4	7.6	6.8	6.1	5.4	5.0
3	28	9.5	7.7	6.9	6.2	5.5	5.0
7	28	9.8	7.9	7.0	6.3	5.6	5.1
14	28	10	8.4	7.5	6.8	6.0	5.5
30	28	11	9.2	8.3	7.6	6.8	6.4
60	28	13	11	9.6	8.8	8.0	7.5
90	28	15	12	11	10	9.3	8.7
120	28	18	15	14	13	12	11
183	28	36	27	24	21	19	18

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1950-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	1360	2040	2470	2980	3330	3670
3	30	1010	1510	1830	2240	2540	2840
7	30	715	1020	1220	1460	1640	1810
15	30	503	684	794	923	1010	1100
30	30	388	518	597	691	757	820
60	30	297	386	441	507	553	598
90	30	270	342	384	431	464	493

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1950-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1180	1700	2590	3300	4350	5250	6250

Systematic n = 30 historical n = 0
Weighted skew = 0.497

WILLAMETTE RIVER BASIN

14162000 BLUE RIVER NEAR BLUE RIVER, OR

LOCATION.--Lat $44^{\circ}10'55''$, long $122^{\circ}16'45''$, in NW 1/4 sec.13, T.16 S., R.4 E., Lane County, Hydrologic Unit 17090004, on right bank 2.5 mi downstream from Lookout Creek, 3.3 mi upstream from Quartz Creek, 3.5 mi northeast of town of Blue River, at at mile 5.1.

DRAINAGE AREA.--75.0 mi².

PERIOD OF RECORD.--September 1935 to September 1964. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,231.62 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--29 years (water years 1936-64), 393 ft³/s, 284,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s Dec. 28, 1945, gage height, 9.80 ft, from rating curve extended above 7,400 ft³/s; minimum discharge, 11 ft³/s Aug. 21, 22, 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1964

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		2	5	10	20	50	100
1	28	20	16	15	14	13	13
3	28	20	17	15	14	13	13
7	28	21	17	16	15	14	13
14	28	22	18	17	16	15	14
30	28	25	20	18	17	16	15
60	28	30	24	21	19	17	16
90	28	36	27	24	21	19	17
120	28	48	34	28	25	21	19
183	28	113	76	62	53	44	39

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1964

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		2	5	10	25	50	100
1	29	4380	6360	7760	9630	11100	12600
3	29	3260	4520	5370	6450	7270	8110
7	29	2220	2950	3390	3910	4260	4600
15	29	1550	2050	2360	2740	3010	3270
30	29	1200	1590	1810	2070	2250	2420
60	29	938	1200	1350	1530	1640	1750
90	29	855	1050	1160	1260	1330	1390

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1964

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4000	5740	8220	9910	12100	13700	15400	

Systematic n = 29 historical n = 0

Weighted skew = -0.025

WILLAMETTE RIVER BASIN

14162200 BLUE RIVER AT BLUE RIVER, OR

LOCATION.--Lat $44^{\circ}09'45''$, long $122^{\circ}19'55''$, in NW 1/4 SE 1/4 sec.21, T.16 S., R.4 E., Lane County, Hydrologic Unit 17090004, on right bank 0.3 mi upstream from Simmonds Creek, 0.7 mi north of town of Blue River, 0.8 mi downstream from Blue River Dam, and at mile 0.9.

DRAINAGE AREA.--87.7 mi².

PERIOD OF RECORD.--February 1966 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,056.53 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 25, 1966, nonrecording gage at datum 0.80 ft higher.

REMARKS.--Flow regulated since October 1968 by Blue River Lake (station 14162100). No diversion upstream from station. Discharge not adjusted for storage or release from Blue River Lake as losses from reservoir at times exceed natural flow.

AVERAGE DISCHARGE.--21 years, 466 ft³/s, 337,600 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,270 ft³/s Feb. 23, 1968, gage height, 8.93 ft; minimum discharge, 0.80 ft³/s Oct. 8, 10, 11, 1968; minimum daily, 3.7 ft³/s Oct. 8, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	31	19	14	10	--	--
3	18	33	20	14	10	--	--
7	18	35	20	14	11	--	--
14	18	43	25	18	13	--	--
30	18	57	30	20	14	--	--
60	18	127	64	42	28	--	--
90	18	200	109	73	49	--	--
120	18	286	187	130	89	--	--
183	18	312	232	180	137	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

[Short-duration statistics uncertain due to excessive skew]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	19	2720	3140	3210	3240	--	--
15	19	2090	2400	2470	2510	--	--
30	19	1530	1880	2030	2160	--	--
60	19	1150	1460	1630	1810	--	--
90	19	973	1230	1350	1490	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14162500 MCKENZIE RIVER NEAR VIDA, OR

LOCATION.--Lat $44^{\circ}07'30''$, long $122^{\circ}28'10''$, in NE 1/4 NE 1/4 sec.5, T.17 S., R.3 E., Lane County, Hydrologic Unit 17090004, on right bank 0.4 mi downstream from Mason Creek, 5.4 mi east of Vida, and at mile 47.7.

DRAINAGE AREA.--930 mi² at cableway 0.4 mi downstream, where all discharge measurement are made.

PERIOD OF RECORD.--July 1910 to March 1911 (published as "at Martins Rapids, near Vida"), September 1924 to 1987. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 855.71 ft above National Geodetic Vertical Datum of 1929 (levels by Eugene Water and Electric Board). July 1, 1910, to Mar. 31, 1911, nonrecording gage at site 3 mi downstream at different datum. Sept. 1, 1924, to Nov. 16, 1928, nonrecording gage at site 20 ft upstream at datum 0.15 ft lower. Nov. 17, 1928, to Sept. 23, 1968, water-stage recorder at present site on left bank at datum 0.15 ft lower.

REMARKS.--Flow regulated since 1963 by Smith River Reservoir (station 14158795) and Cougar Lake (station 14159400), and since 1968 by Blue River Lake (station 14162100). No diversion upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--63 years (water years 1925-87), 4,051 ft³/s, 2,935,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,400 ft³/s Dec. 28, 1945, gage height, 17.70 ft, site and datum then in use, from rating curve extended above 32,000 ft³/s; minimum discharge, 1,260 ft³/s Nov. 7, 1930, Sept. 17, Oct. 4, 8, 9, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1923 reached a stage of 17.2 ft, from floodmarks, discharge, 62,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	1560	1390	1310	1250	1190	1150
3	37	1570	1400	1320	1260	1190	1150
7	37	1580	1400	1320	1260	1200	1160
14	37	1600	1420	1340	1270	1200	1160
30	37	1640	1450	1360	1290	1210	1170
60	37	1700	1490	1390	1320	1240	1190
90	37	1770	1530	1420	1340	1260	1200
120	37	1880	1610	1480	1390	1300	1240
183	37	2330	1900	1710	1580	1450	1360

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38	24200	33600	39300	46000	50600	55000
3	38	19000	25900	30200	35300	38900	42400
7	38	14300	18500	20900	23500	25300	26900
15	38	10800	13700	15300	17000	18200	19300
30	38	8690	10800	12100	13500	14400	15300
60	38	7220	8850	9810	10900	11700	12400
90	38	6620	7960	8700	9500	10000	10500

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1962

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
20300	29200	41500	49500	59500	66800	74100	

Systematic n = 38 historical n = 40
Weighted skew = -0.164

WILLAMETTE RIVER BASIN

14163000 GATE CREEK AT VIDA, OR

LOCATION.--Lat 44°08'45", long 122°34'15", in SW 1/4 sec.28, T.16 S., R.2 E., Lane County, Hydrologic Unit 17090004, on right bank 300 ft downstream from bridge on State Highway 126, at Vida, and at mile 0.2.

DRAINAGE AREA.--47.6 mi².

PERIOD OF RECORD.--June 1951 to September 1957; annual maximums, water years 1958-65; August 1966 to 1987.

REVISED RECORDS.--WDR OR-83-2: 1976(M,P), 1978(M,P), 1979(M,P), 1980(M), 1981(M,P), 1982(M,P).

GAGE.--Water-stage recorder. Datum of gage is 764.56 ft above National Geodetic Vertical Datum of 1929. June 11, 1951, to Sept. 30, 1957, water-stage recorder, and Oct. 1, 1957, to Aug. 1, 1966, crest-stage gage at same site and datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1952-57, 1967-87), 212 ft³/s, 60.48 in/yr, 153,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,140 ft³/s Dec. 22, 1964, gage height, 12.18 ft, from slope-area measurement of peak flow; minimum discharge, 12 ft³/s Nov. 26, 27, 1952, Sept. 6, 7, 23, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1953-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	17	15	14	13	12	11
3	25	18	15	14	13	12	11
7	25	18	15	14	13	12	11
14	25	19	16	15	14	13	12
30	25	21	18	16	15	14	13
60	25	24	20	19	17	16	15
90	25	28	23	21	19	18	17
120	25	34	27	24	22	20	19
183	25	59	46	41	37	33	31

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1952-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	2080	2850	3300	3790	4120	4410
3	27	1630	2190	2490	2800	3000	3170
7	27	1200	1520	1680	1830	1910	1980
15	27	832	1070	1200	1350	1440	1530
30	27	662	844	946	1060	1130	1200
60	27	522	665	746	837	896	951
90	27	463	586	658	742	799	852

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1952-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1970	2890	4280	5280	6630	7700	8810	

Systematic n = 35 historical n = 0
Weighted skew = 0.105

WILLAMETTE RIVER BASIN

14165000 MOHAWK RIVER NEAR SPRINGFIELD, OR

LOCATION.--Lat $44^{\circ}05'34''$, long $122^{\circ}57'20''$, in SE 1/4 NW 1/4 sec.17, T.17 S., R.2 W., Lane County, Hydrologic Unit 17090004, on left bank 50 ft downstream from bridge, 1.3 mi northeast of Springfield, and at mile 1.59.

DRAINAGE AREA.--177 mi².

PERIOD OF RECORD.--September 1935 to September 1952, October 1963 to 1987. Prior to October 1935 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1939. WSP 1738: Drainage area. WDR OR-86-2: 1985(m).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 442.47 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1935, to Sept. 30, 1952, nonrecording gage at same site and datum.

REMARKS.--Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--41 years, 536 ft³/s, 41.12 in/yr, 388,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Dec. 22, 1964, gage height, 22.60 ft; minimum discharge, 8.2 ft³/s Sept. 9, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached at stage of 22.9 ft, from floodmark, probably affected by backwater from McKenzie River, discharge, 9,200 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	39	20	15	12	11	9.2	8.3
3	39	21	15	13	11	9.9	8.9
7	39	22	16	14	12	11	9.5
14	39	24	18	15	13	12	11
30	39	27	20	17	15	13	12
60	39	33	24	21	18	16	14
90	39	39	28	25	22	19	18
120	39	48	36	31	28	25	23
183	39	99	70	59	51	44	40

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	41	5530	7730	8840	9920	10600	11100
3	41	4470	6210	7110	8000	8530	8970
7	41	3390	4550	5150	5770	6140	6460
15	41	2510	3260	3640	4020	4240	4430
30	41	1930	2400	2610	2800	2900	2970
60	41	1510	1910	2090	2270	2370	2450
90	41	1330	1690	1860	2020	2120	2200

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4260	6180	8740	10400	12300	13700	15100	

Systematic n = 42 historical n = 0
Weighted skew = -0.276

WILLAMETTE RIVER BASIN

14165500 MCKENZIE RIVER NEAR COBURG, OR

LOCATION.--Lat 44°06'45", long 123°02'45", in NW 1/4 NE 1/4 sec.9, T.17 S., R.3 W., Lane County, Hydrologic Unit 17090004, on left bank at downstream side of Armitage Bridge, 2 mi southeast of Coburg, and at mile 7.1.

DRAINAGE AREA.--1,337 mi².

PERIOD OF RECORD.--October 1944 to September 1972.

GAGE.--Water-stage recorder. Datum of gage is 392.32 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1944, nonrecording gage at same site at datum 4.00 ft higher. Nov. 25, 1944, to Feb. 28, 1965, water-stage recorder at same site at datum 4.00 ft higher.

REMARKS.--Flow regulated since 1963 by Smith River Reservoir and Cougar Lake, and since 1968 by Blue River Lake. Slight diurnal fluctuation caused by logpounds and powerplants upstream. Water supply for city of Eugene is diverted 10 mi upstream; small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years, 5,916 ft³/s, 60.09 in/yr, 4,286,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft³/s Dec. 29, 1945, gage height, 21.36 ft, from rating curve extended above 59,000 ft³/s; minimum, 1,080 ft³/s Aug. 19, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1946-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	1800	1620	1540	1470	--	--
3	17	1840	1650	1560	1490	--	--
7	17	1850	1670	1570	1500	--	--
14	17	1890	1700	1600	1520	--	--
30	17	1940	1740	1640	1560	--	--
60	17	2020	1820	1710	1630	--	--
90	17	2130	1900	1780	1700	--	--
120	17	2300	2030	1910	1810	--	--
183	17	3070	2690	2540	2430	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1945-1962

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	43500	57900	66500	76700	--	--
3	18	34000	44700	51500	59900	--	--
7	18	24400	30600	34300	38700	--	--
15	18	18100	22200	24600	27200	--	--
30	18	14400	17700	19900	22600	--	--
60	18	11600	14000	15600	17600	--	--
90	18	10700	12500	13600	15000	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1945-1963

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
36300	49500	68600	81900	99400	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = 0.182

WILLAMETTE RIVER BASIN

14166000 WILLAMETTE RIVER AT HARRISBURG, OR

LOCATION.--Lat 44°16'14", long 123°10'21", in NW 1/4 NE 1/4 sec.16, T.15 S., R.4 W., Linn County, Hydrologic Unit 17090003, on right bank 75 ft north of intersection of First Street and Kesling Street in Harrisburg and at mile 161.0.

DRAINAGE AREA.--3,420 mi², approximately.

PERIOD OF RECORD.--October 1944 to 1987. Gage-height records collected at same site in 1927-28, 1931, 1934, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 288.39 ft above National Geodetic Vertical Datum of 1929. Oct 1 to Nov. 14, 1944, nonrecording gage at bridge 1,110 ft upstream at different datum. Nov. 15, 1944, to Aug. 15, 1973, at site 1,100 ft upstream at datum 2.00 ft higher.

REMARKS.--Flow regulated by 8 reservoirs upstream from station. Many small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--43 years, 12,150 ft³/s, 8,803,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft³/s Dec. 29, 1945, gage height, 19.69 ft, from rating curve extended above 115,000 ft³/s; minimum discharge, 1,990 ft³/s Oct. 30, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 20.5 ft was reached in December 1861, and 20.1 ft in February 1890 (information from Corps of Engineers). Flood of Jan. 1, 1943, reached a stage of 19.1 ft from National Weather Service.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	4320	3680	3250	2880	--	--
3	18	4410	3740	3300	2910	--	--
7	18	4510	3800	3350	2970	--	--
14	18	4600	3870	3430	3060	--	--
30	18	4720	4010	3590	3240	--	--
60	18	4950	4240	3870	3580	--	--
90	18	5360	4530	4110	3760	--	--
120	18	5820	4960	4530	4190	--	--
183	18	6720	5730	5270	4930	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	55400	64700	66600	67400	--	--
3	19	49800	57800	59400	60000	--	--
7	19	45900	52500	53600	54000	--	--
15	19	40000	46300	47600	48100	--	--
30	19	33500	39200	40500	41100	--	--
60	19	26700	33000	35200	36700	--	--
90	19	23400	29000	30900	32200	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14166500 LONG TOM RIVER NEAR NOTI, OR

LOCATION.--Lat $44^{\circ}03'00''$, long $123^{\circ}25'30''$, in SE 1/4 NW 1/4 sec.33, T.17 S., R.6 W., Lane County, Hydrologic Unit 17090003, on left bank 0.2 mi upstream from Southern Pacific Railroad bridge, 0.8 mi downstream from Noti Creek, 1.3 mi southeast of Noti, and at mile 37.4.

DRAINAGE AREA.--89.3 mi².

PERIOD OF RECORD.--October 1935 to 1987.

REVISED RECORDS.--WSP 1318: 1936(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 389.05 ft above National Geodetic Vertical Datum of 1929 (levels by National Weather Service). Prior to Nov. 6, 1940, nonrecording gage at same site and datum.

REMARKS.--Slight regulation caused by logpond upstream from Noti. No diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 233 ft³/s, 35.43 in/yr, 168,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,990 ft³/s Dec. 22, 1955, gage height, 20.17 ft; minimum discharge, 0.04 ft³/s Aug. 13, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1987

[Short-duration statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	32	13	7.9	5.2	3.4	1.9	1.2
60	32	14	9.8	7.7	6.1	4.6	3.8
90	32	16	12	9.9	8.2	6.6	5.7
120	32	20	15	13	11	8.7	7.5
183	32	36	27	23	20	18	16

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	2820	4050	4750	5520	6000	6440
3	52	2250	3190	3730	4320	4700	5040
7	52	1620	2260	2630	3040	3320	3560
15	52	1170	1580	1800	2040	2180	2310
30	52	894	1160	1290	1420	1500	1560
60	52	700	904	1000	1090	1150	1190
90	52	615	801	889	970	1010	1050

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2010	3110	4610	5580	6740	7570	8370	

Systematic n = 52 historical n = 0
Weighted skew = -0.366

WILLAMETTE RIVER BASIN

14167000 COYOTE CREEK NEAR CROW, OR

LOCATION.--Lat $44^{\circ}01'19''$, long $123^{\circ}15'17''$, in SW 1/4 NE 1/4 sec.11, T.18 S., R.5 W., Lane County, Hydrologic Unit 17090003, on right bank 1.0 mi downstream from Spencer Creek, 4.3 mi northeast of Crow, and at mile 3.8.

DRAINAGE AREA.--95.1 mi².

PERIOD OF RECORD.--July 1940 to September 1987.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 374.0 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 31, 1940, nonrecording gage near same site at different datums.

REMARKS.--No regulation. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--47 years, 176 ft³/s, 25.13 in/yr, 127,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s Feb. 10, 1961, gage height, 14.43 ft, from rating curve extended above 4,700 ft³/s; no flow at times most years.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1987

[Short-duration statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	32	0.3	0.0	0.0	0.0	0.0	0.0
90	32	0.5	0.1	0.0	0.0	0.0	0.0
120	32	1.3	0.5	0.3	0.1	0.0	0.0
183	32	6.8	3.7	2.7	2.1	1.5	1.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	47	3350	5420	6590	7830	8580	9210
3	47	2530	3890	4620	5330	5750	6090
7	47	1720	2560	3010	3480	3760	3990
15	47	1170	1670	1930	2170	2310	2430
30	47	845	1150	1270	1380	1430	1470
60	47	660	854	919	962	978	987
90	47	554	716	769	804	816	824

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2030	4030	7380	9810	13000	15400	17800	

Systematic n = 47 historical n = 0
Weighted skew = -0.444

WILLAMETTE RIVER BASIN

14169001 LONG TOM RIVER NEAR ALVADORE, OR

LOCATION.--Lat $44^{\circ}07'25''$, long $123^{\circ}17'55''$, in SW 1/4 NE 1/4 sec.4, T.17 S., R.5 W., Lane County, Hydrologic Unit 17090003, on left bank 0.2 mi downstream from Fern Ridge Dam, 1.7 mi west of Alvadore, and at mile 25.5.

DRAINAGE AREA.--252 mi², not including Amazon Creek basin.

PERIOD OF RECORD.--August 1939 to 1985. Prior to October 1943, published as "at Smithfield," and October 1943 to September 1959, as "below Fern Ridge Dam, near Smithfield."

REVISED RECORDS.--WSP 1248: 1940-41, 1948.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 332.00 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Sept. 21, 1939, nonrecording gage and Sept. 21, 1939, to Sept. 30, 1943, water-stage recorder at site 2.5 mi downstream at datum 11.09 ft lower.

REMARKS.--Flow regulated since 1941 by Fern Ridge Lake (station 14168000). Several small diversions for irrigation upstream from station. Records include diversion to Coyote Creek Channel. Point of diversion is 500 ft upstream and point of return, 2.3 mi downstream. Discharge not adjusted for storage or release from Fern Ridge Lake as evaporation from reservoir at times exceeds natural flow and diversions, and beginning in November 1951, most of flow of Amazon Creek has been diverted into Fern Ridge Lake.

COOPERATION.--Gage-height record for Coyote Creek diversion furnished by Corps of Engineers.

AVERAGE DISCHARGE.--46 years, 536 ft³/s, 388,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s Jan. 1, 1943, gage height, 15.12 ft, site and datum then in use; minimum daily discharge, 2 ft³/s Aug. 7, 1941.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	25	14	8.7	5.6	3.1	--
3	24	28	15	9.8	6.2	3.3	--
7	24	32	18	11	6.9	3.6	--
14	24	35	20	12	7.4	3.7	--
30	24	38	21	13	7.9	4.0	--
60	24	42	25	17	12	7.4	--
90	24	43	30	24	19	15	--
120	24	47	35	29	25	21	--
183	24	90	57	45	38	31	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	4240	5180	5540	5810	5930	6010
3	25	4060	5060	5460	5780	5930	6040
7	25	3570	4710	5300	5900	6260	6560
15	25	2690	3760	4440	5270	5870	6450
30	25	1990	2750	3270	3950	4460	4980
60	25	1540	2130	2490	2920	3220	3510
90	25	1320	1800	2070	2360	2550	2720

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14169300 AMAZON CREEK AT EUGENE, OR

LOCATION.--Lat 44°00'45", long 123°04'35", in SW 1/4 SE 1/4 sec.8, T.18 S., R.3 W., Lane County, Hydrologic Unit 17090003, on right bank 145 ft south of intersection of 39th Street and E. Amazon Drive in Eugene, and at mile 20.3.

DRAINAGE AREA.--3.35 mi².

PERIOD OF RECORD.--October 1962 to September 1975.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 442.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years, 5.24 ft³/s, 21.24 in/yr, 3,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 527 ft³/s Jan. 19, 1964, gage height, 7.29 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1964-1975

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	0.0	0.0	0.0	--	--	--
3	12	0.1	0.0	0.0	--	--	--
7	12	0.1	0.0	0.0	--	--	--
14	12	0.1	0.0	0.0	--	--	--
30	12	0.2	0.1	0.0	--	--	--
60	12	0.2	0.1	0.1	--	--	--
90	12	0.2	0.2	0.1	--	--	--
120	12	0.3	0.2	0.1	--	--	--
183	12	0.4	0.3	0.2	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1963-1975

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13	126	192	228	--	--	--
3	13	86	130	154	--	--	--
7	13	58	83	96	--	--	--
15	13	35	50	59	--	--	--
30	13	23	31	36	--	--	--
60	13	18	23	26	--	--	--
90	13	15	20	22	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1963-1975

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
197	268	369	439	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = 0.170

WILLAMETTE RIVER BASIN

14170000 LONG TOM RIVER AT MONROE, OR

LOCATION.--Lat 44°18'50", long 123°17'45", in NE 1/4 sec.33, T.14 S., R.5 W., Benton County, Hydrologic Unit 17090003, on left bank in canalized river channel at Monroe, 110 ft upstream from bridge on State Highway 99W, 0.1 mi downstream from Shafer Creek, and at mile 6.8.

DRAINAGE AREA.--391 mi².

PERIOD OF RECORD.--November 1920 to July 1921, October 1921 to April 1926, November 1926 to May 1927, October 1927 to 1987. Prior to October 1930, published as "near Monroe."

REVISED RECORDS.--WSP 654: Drainage area. WSP 1248: 1923, 1927, 1928(M). WSP 1288: 1952.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 270.57 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1944, nonrecording gage at various sites ranging from present site to 1.5 mi downstream at different datums.

REMARKS.--Flow regulated since 1941 by Fern Ridge Lake (station 14168000). Several small diversions upstream from station.

AVERAGE DISCHARGE.--64 years (water years 1922-25, 1928-87), 770 ft³/s, 557,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s Jan. 2, 1943, gage height, 17.14 ft, site and datum then in use, from graph based on gage readings, includes some overflow from Willamette River near Junction City; no flow Oct. 20-22, 1944 (water filling pool at gage); minimum discharge observed prior to regulation, 7 ft³/s Sept. 29, Oct. 1, 1939.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1940

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	14	10	8.8	--	--	--
3	12	14	11	9.3	--	--	--
7	12	15	11	10	--	--	--
14	12	15	12	11	--	--	--
30	12	17	13	12	--	--	--
60	12	18	14	13	--	--	--
90	12	20	16	14	--	--	--
120	12	24	19	17	--	--	--
183	12	50	35	30	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1940

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13	7310	10400	12600	--	--	--
3	13	6480	9170	11300	--	--	--
7	13	5270	6920	8050	--	--	--
15	13	4050	5140	5800	--	--	--
30	13	2980	3690	4080	--	--	--
60	13	2280	2830	3120	--	--	--
90	13	1910	2470	2800	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1921-1940

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5680	8480	12800	16000	20200	23600	--	

Systematic n = 20 historical n = 0
Weighted skew = 0.093

WILLAMETTE RIVER BASIN

14170000 LONG TOM RIVER AT MONROE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1943-1987

[Short-duration statistics uncertain due to excessive skew]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	45	31	22	17	14	10	8.4
14	45	33	24	20	17	14	12
30	45	35	27	22	19	16	14
60	45	39	29	25	22	19	17
90	45	43	33	29	26	24	23
120	45	53	40	35	32	30	29
183	45	152	98	76	61	47	40

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1942-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	46	5770	7510	8420	9370	9960	10500
3	46	5210	6750	7560	8400	8920	9360
7	46	4660	6000	6690	7390	7810	8170
15	46	3990	5300	6020	6790	7290	7720
30	46	3160	4310	5030	5870	6470	7030
60	46	2450	3380	3920	4540	4960	5340
90	46	2090	2880	3320	3770	4060	4310

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14170500 ROCK CREEK NEAR PHILOMATH, OR

LOCATION.--Lat 44°30'05", long 123°26'20", in SW 1/4 NE 1/4 sec.29, T.12 S., R.6 W., Benton County, Hydrologic Unit 17090003, on left bank 600 ft upstream from bridge on State Highway 34, 4.5 mi southwest of Philomath, and at mile 0.4.

DRAINAGE AREA.--14.6 mi².

PERIOD OF RECORD.--October 1945 to September 1952, water years 1953-60 (annual maximum), October 1974 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 349.08 ft above National Geodetic Vertical Datum of 1929. Prior to October 1974, at site 0.2 mi downstream at datum 5.08 ft higher.

REMARKS.--Flow regulated by small storage reservoir operated by city of Corvallis, most low-water flow diverted to city of Corvallis water supply system.

AVERAGE DISCHARGE.--12 years, 51.2 ft³/s, 47.62 in/yr, 37,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,190 ft³/s Dec. 21, 1955, gage height, 6.82 ft, at site and datum then in use, from rating curve extended above 810 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 13.17 ft Dec. 15, 1977; minimum discharge, 0.2 ft³/s Aug 24, 1946, for several days in summers of 1949 and 1950, Sept. 1-3, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	10	0.7	0.3	0.2	--	--	--
3	10	0.7	0.3	0.2	--	--	--
7	10	0.8	0.4	0.3	--	--	--
14	10	0.8	0.4	0.3	--	--	--
30	10	1.0	0.5	0.4	--	--	--
60	10	1.4	0.8	0.6	--	--	--
90	10	2.0	1.3	1.1	--	--	--
120	10	3.1	2.3	1.9	--	--	--
183	10	7.7	5.3	4.2	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	12	609	772	860	--	--	--
3	12	460	587	659	--	--	--
7	12	326	420	480	--	--	--
15	12	248	309	343	--	--	--
30	12	192	227	241	--	--	--
60	12	153	183	193	--	--	--
90	12	142	174	184	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1946-1979

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25	2	5	10	25	50	100
80%	50%	20%	10%	4%	2%	1%
702	987	1430	1750	2180	2540	--

Systematic n = 21 historical n = 0
Weighted skew = 0.273

WILLAMETTE RIVER BASIN

14171000 MARYS RIVER NEAR PHILOMATH, OR

LOCATION.--Lat 44°31'35", long 123°20'00", in NE 1/4 SE 1/4 sec.18, T.12 S., R.5 W., Benton County, Hydrologic Unit 17090003, on left bank 50 ft downstream from bridge on Bellfountain Road, 0.6 mi downstream from Newton Creek, 2.0 mi southeast of Philomath, and at mile 9.4.

DRAINAGE AREA.--159 mi², including drainage area of Evergreen Creek upstream from Bellfountain Road, 1.4 mi south of station.

PERIOD OF RECORD.--October 1940 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is 224.01 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1961, nonrecording gage at bridge 50 ft upstream at same datum.

REMARKS.--Records include flow of Evergreen Creek at Bellfountain Road crossing 1.4 mi south of station, with which overflow from Marys River may at times be mingled. Slight regulation by small storage reservoir on Rock Creek from which municipal supply is diverted for city of Corvallis. Other small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--45 years, 462 ft³/s, 39.46 in/yr, 334,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s Dec. 22, 1964, gage height, 20.72 ft; maximum gage height, 20.91 ft Jan. 15, 1974; minimum discharge, 0.60 ft³/s Aug. 23, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	44	9.9	5.9	4.2	3.1	2.1	1.6
3	44	10	6.3	4.7	3.6	2.6	2.0
7	44	11	6.9	5.3	4.2	3.1	2.5
14	44	11	7.6	5.9	4.8	3.7	3.0
30	44	13	8.8	7.1	5.9	4.7	4.1
60	44	15	11	8.9	7.5	6.2	5.4
90	44	19	14	11	9.8	8.2	7.4
120	44	25	18	15	13	11	9.6
183	44	55	39	32	28	24	21

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	45	5250	7260	8390	9630	10400	11200
3	45	4360	5970	6890	7910	8580	9180
7	45	3220	4330	4950	5650	6100	6510
15	45	2320	3080	3490	3940	4220	4460
30	45	1810	2300	2510	2700	2810	2880
60	45	1420	1830	2020	2200	2300	2380
90	45	1260	1630	1800	1950	2030	2090

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4140	6200	8960	10700	12800	14400	15800	

Systematic n = 45 historical n = 0
Weighted skew = -0.317

WILLAMETTE RIVER BASIN

14172000 CALAPOOIA RIVER AT HOLLEY, OR

LOCATION.--Lat $44^{\circ}21'05''$, long $122^{\circ}47'10''$, in SE 1/4 sec.15, T.14 S., R.1 W., Linn County, Hydrologic Unit 17090003, on right bank 200 ft downstream from bridge on State Highway 228, 0.3 mi southwest of Holley, 5.0 mi upstream from Brush Creek, and at mile 45.4.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--September 1935 to 1987. Prior to October 1963, published as Calapooia River at Holley.

REVISED RECORDS.--WSP 1044: 1943. WSP 1218: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 527.58 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1963, nonrecording gage at present site and datum.

REMARKS.--Slight regulation at times during low-water periods by small dam upstream. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--52 years, 437 ft³/s, 56.52 in/yr, 316,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft³/s Dec. 22, 1964, gage height, 14.60 ft; maximum gage height, 15.30 ft Dec. 22, 1964 (backwater from debris); minimum discharge observed, 13 ft³/s Sept. 8, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	25	21	19	17	15	14
3	51	25	21	19	18	17	16
7	51	26	22	20	19	17	16
14	51	27	23	21	19	18	17
30	51	30	25	22	21	19	18
60	51	36	29	25	23	21	19
90	51	42	33	29	26	23	22
120	51	54	40	34	30	26	24
183	51	112	81	69	60	51	46

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	4440	6390	7690	9330	10500	11700
3	52	3470	4880	5790	6910	7720	8510
7	52	2510	3400	3940	4570	5010	5430
15	52	1820	2360	2670	3020	3250	3460
30	52	1420	1790	1980	2180	2310	2420
60	52	1120	1410	1580	1760	1880	1990
90	52	984	1230	1380	1540	1650	1760

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3750	5510	8000	9660	11800	13300	14900

Systematic n = 52 historical n = 0
Weighted skew = -0.133

WILLAMETTE RIVER BASIN

14173500 CALAPOOIA RIVER AT ALBANY, OR

LOCATION.--Lat 44°37'15", long 123°07'40", in NW 1/4 sec.13, T.11 S., R.4 W., Linn County, Hydrologic Unit 17090003, near right bank on downstream side of bridge on Riverside Drive at Albany, 0.6 mi downstream from Oak Creek, and at mile 3.0.

DRAINAGE AREA.--372 mi².

PERIOD OF RECORD.--October 1940 to September 1981. Prior to October 1963, published as "Calapooya River at Albany".

GAGE.--Water-stage recorder. Datum of gage is 180.85 ft above National Geodetic Vertical Datum of 1929. Prior to May 11, 1962, nonrecording gage at same site and datum.

REMARKS.--Higher flows are affected by backwater from Willamette River at times. Diurnal fluctuation caused by ponds at flourmills near Shedd. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--41 years, 895 ft³/s, 32.67 in/yr, 648,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 32,700 ft³/s Dec. 22, 1955, gage height, 22.12 ft; maximum gage height, 25.5 ft Jan. 2, 1943, from graph based on gage readings (backwater from Willamette River); minimum discharge, 3.5 ft³/s Sept. 7, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	40	13	8.6	6.6	5.2	3.9	3.1
3	40	19	14	11	9.1	7.2	6.0
7	40	23	17	14	12	10	9.1
14	40	24	18	16	14	12	10
30	40	28	21	18	15	13	11
60	40	35	26	22	19	17	15
90	40	42	30	26	23	20	19
120	40	56	40	34	30	26	24
183	40	133	94	78	66	55	49

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	41	11300	17200	20900	25200	28100	30900
3	41	9350	13400	15700	18100	19600	20900
7	41	6770	9340	10700	12200	13100	13800
15	41	4710	6240	7010	7760	8200	8570
30	41	3570	4510	4910	5250	5420	5550
60	41	2740	3550	3940	4300	4510	4670
90	41	2370	3050	3380	3690	3870	4010

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7370	12300	19800	25000	31700	36700	41800	

Systematic n = 41 historical n = 0
Weighted skew = -0.278

WILLAMETTE RIVER BASIN

14174000 WILLAMETTE RIVER AT ALBANY, OR

LOCATION.--Lat $44^{\circ}38'20''$, long $123^{\circ}06'20''$, in SW 1/4 sec. 6, T. 11 S., R. 3 W., Linn County, Hydrologic Unit 17090003, on right bank 5 ft upstream from bridge on U.S. Highway 20 (Ellsworth Street) in Albany, 0.2 mi downstream from Calapooia River, and at mile 119.31.

DRAINAGE AREA.--4,840 mi², approximately.

PERIOD OF RECORD.--November 1878 to April 1888 (fragmentary), January to June 1892, November 1892 to September 1894, December 1894 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 694: Drainage area. WSP 904: 1939. WSP 964: 1881, 1890, 1894, 1897, 1901, 1903, 1908, 1910, 1916, 1923, 1927, 1932(M). WSP 984: 1916. WSP 1248: 1895, 1902, 1907, 1915(M), 1917(M), 1918-19, 1934(M). WSP 1318 (monthly and annual figures only): 1894, 1897, 1901-3, 1907-8, 1910, 1916, 1918-19, 1923, 1927.

GAGE.--Water-stage recorder. Datum of gage is 167.18 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 27, 1906, nonrecording gage at site 0.2 mi upstream at datum 5.00 ft higher. Sept. 27, 1906, to Nov. 12, 1934, nonrecording gage at site 300 ft upstream at datum 5.00 ft higher. Nov. 14, 1934, to Sept. 30, 1962, at datum 5.00 ft higher.

REMARKS.--Flow regulated by nine reservoirs upstream from station. Albany power canal diverts water from South Santiam River at Lebanon and discharges into Calapooia River near mouth; small diversions for irrigation and municipal water supply.

AVERAGE DISCHARGE.--93 years (water years 1894, 1896-87), 14,480 ft³/s, 40.63 in/yr, 10,490,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 266,000 ft³/s Jan. 14, 1881, gage height, 37.8 ft, present datum; minimum discharge, 1,840 ft³/s Sept. 1, 2, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 4, 1861, reached a stage of 41.0 ft, discharge, 340,000 ft³/s, from rating curve extended above 220,000 ft³/s. Flood of Feb. 4, 1890, reached a stage of 38.9 ft, discharge, 291,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1896-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	46	2600	2270	2110	1990	1870	1790
3	46	2610	2270	2120	2000	1880	1810
7	46	2630	2290	2140	2020	1900	1820
14	46	2670	2330	2180	2080	1970	1910
30	46	2780	2430	2270	2160	2040	1970
60	46	2940	2540	2370	2260	2140	2070
90	46	3170	2690	2480	2330	2180	2090
120	46	3450	2860	2620	2450	2290	2190
183	46	5070	3950	3490	3160	2830	2640

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1896-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	46	98300	143200	174300	215000	246200	278100
3	46	87100	123000	146400	175400	196500	217400
7	46	68700	92000	105900	121900	132800	143000
15	46	51400	66200	74500	83800	89900	95500
30	46	39400	49000	54000	59400	62800	65700
60	46	31400	38600	42600	46800	49500	52000
90	46	27500	33600	36800	40300	42500	44400

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1862-1942

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
72000	106300	160500	201000	257400	303200	352300	

Systematic n = 56 historical n = 81
Weighted skew = 0.208

WILLAMETTE RIVER BASIN

14174000 WILLAMETTE RIVER AT ALBANY, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	4640	3930	3490	3110	--	--
3	18	4720	4000	3550	3150	--	--
7	18	4800	4050	3600	3220	--	--
14	18	4880	4120	3690	3320	--	--
30	18	4990	4260	3850	3500	--	--
60	18	5230	4480	4110	3820	--	--
90	18	5660	4780	4350	4010	--	--
120	18	6200	5310	4870	4530	--	--
183	18	7330	6240	5750	5390	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	74900	90400	94600	97000	--	--
3	19	70900	83800	86700	88100	--	--
7	19	63500	72500	74000	74500	--	--
15	19	53700	61900	63300	63900	--	--
30	19	44600	51500	52700	53100	--	--
60	19	35700	43800	46300	47800	--	--
90	19	31100	38700	41100	42800	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14178000 NORTH SANTIAM RIVER BELOW BOULDER CREEK, NEAR DETROIT, OR

LOCATION.--Lat $44^{\circ}42'25''$, long $122^{\circ}06'00''$, in SE 1/4 NW 1/4 sec.17, T.10 S., R.6 E., Marion County, Hydrologic Unit 17090005, on right bank 0.5 mi downstream from Boulder Creek, 3.0 mi southeast of Detroit, and at mile 70.7.

DRAINAGE AREA.--216 mi².

PERIOD OF RECORD.--January 1907 to October 1909, October 1928 to 1987. Monthly discharge only January 1907, published in WSP 1318. Prior to October 1952, published as "at Detroit."

REVISED RECORDS.--WSP 814: Drainage area at former site. WSP 1248: 1931. WRD OR-85-2: 1982-82(P).

GAGE.--Water-stage recorder. Datum of gage is 1,590.07 ft above National Geodetic Vertical Datum of 1929. See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--61 years, 1,007 ft³/s, 63.31 in/yr, 729,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s Dec. 22, 1964, slope-area measurement of peak flow, gage height, 13.76 ft, temporary backwater from debris; minimum discharge, 250 ft³/s Sept. 13, 1909.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1909-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	59	386	342	322	306	289	279
3	59	387	343	323	307	289	279
7	59	391	346	325	308	291	280
14	59	398	352	330	313	295	283
30	59	410	362	339	321	302	290
60	59	427	376	351	333	313	300
90	59	447	390	363	342	321	307
120	59	477	410	381	359	337	323
183	59	609	499	452	419	385	364

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1909-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	61	6070	8950	10900	13200	15000	16800
3	61	4840	7040	8550	10500	12000	13400
7	61	3670	5050	5920	6970	7720	8450
15	61	2800	3600	4070	4600	4960	5300
30	61	2250	2780	3070	3380	3590	3780
60	61	1860	2240	2440	2660	2800	2920
90	61	1680	1980	2130	2290	2380	2460

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
4970	7540	11600	14600	18700	22100	25600	

Systematic n = 61 historical n = 0
Weighted skew = 0.115

WILLAMETTE RIVER BASIN

14179000 BREITENBUSH RIVER ABOVE FRENCH CREEK, NEAR DETROIT, OR

LOCATION.--Lat 44°45'10", long 122°07'40", in SE 1/4 NE 1/4 sec.36, T.9 S., R.5 E., Marion County, Hydrologic Unit 17090005, in Willamette National Forest, on left bank 600 ft upstream from Canyon Creek, 1.5 mi northeast of Detroit, and at mile 2.0.

DRAINAGE AREA.--108 mi², at measuring cable 0.2 mi downstream from gage.

PERIOD OF RECORD.--June 1932 to September 1987 (discontinued). Monthly discharge only June 1932, published in WSP 1318. Published as "above Canyon Creek, near Detroit" from October 1952 to September 1984.

REVISED RECORDS.--WSP 1044: 1943(M). WSP 1248: 1947. WRD OR-85-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,573.95 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1952, at site 0.2 mi downstream at datum 13.46 ft lower.

REMARKS.--No regulation or diversion upstream from station. All records given herein are for measuring site 0.2 mi downstream from gage.

AVERAGE DISCHARGE.--55 years, 576 ft³/s, 72.43 in/yr, 417,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s Dec. 22, 1964, gage height, 14.55 ft; minimum discharge, 87 ft³/s Sept. 2, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	54	120	105	98	93	88	84
3	54	121	106	99	94	88	85
7	54	123	107	100	95	89	86
14	54	127	110	103	97	91	87
30	54	133	115	107	101	95	91
60	54	144	123	114	107	100	96
90	54	161	134	122	113	104	99
120	54	186	149	133	122	110	103
183	54	285	219	191	170	150	138

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	55	4900	6930	8180	9640	10600	11600
3	55	3650	5190	6180	7410	8300	9180
7	55	2630	3610	4200	4890	5360	5810
15	55	1930	2520	2850	3200	3440	3640
30	55	1490	1890	2110	2350	2500	2640
60	55	1190	1470	1620	1770	1870	1960
90	55	1070	1290	1400	1510	1580	1640

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1933-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
4370	6190	8890	10800	13400	15400	17400	

Systematic n = 55 historical n = 0
Weighted skew = 0.138

WILLAMETTE RIVER BASIN

14181500 NORTH SANTIAM RIVER AT NIAGARA, OR

LOCATION.--Lat $44^{\circ}45'10''$, long $122^{\circ}17'50''$, in NE 1/4 NE 1/4 sec.34, T.9 S., R.4 E., Linn County, Hydrologic Unit 17090005, on left bank 0.1 mi downstream from Little Sardine Creek, 0.8 mi downstream from Big Cliff Dam, 2.1 mi east of Niagara, and at mile 57.3.

DRAINAGE AREA.--453 mi².

PERIOD OF RECORD.--December 1908 to January 1920, October 1921 to March 1922, October 1938 to 1987.

Monthly discharge only for some periods, published in WSP 1318. Published as "North Fork of Santiam River near Niagara" prior to October 1913, and as "above Mayflower Creek, near Detroit" October 1938 to September 1952.

REVISED RECORDS.--WSP 1288: 1914-18, 1920. WSP 1718: 1953-54.

GAGE.--Water-stage recorder. Datum of gage is 1,093.78 ft above National Geodetic Vertical Datum of 1929 (Federal Highway Administration bench mark). See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--Flow regulated since 1953 by Detroit Lake (station 14180500) and Big Cliff Reservoir, usable capacity for re-regulating purposes, 2,930 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--59 years (water years 1910-19, 1939-87), 2,332 ft³/s, 69.91 in/yr, 1,690,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63,200 ft³/s Nov. 22, 1909, gage height, 16.4 ft, from floodmark, site and datum then in use, from rating curve extended above 35,000 ft³/s; minimum discharge, 19 ft³/s Aug. 21, 1963; minimum daily, 395 ft³/s Mar. 25, 26, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	557	479	443	415	386	--
3	20	560	483	446	417	387	--
7	20	567	488	452	424	395	--
14	20	581	501	463	434	404	--
30	20	606	518	478	448	417	--
60	20	648	542	499	469	429	--
90	20	723	582	522	477	432	--
120	20	827	640	559	500	440	--
183	20	1210	905	772	676	580	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	14900	22900	28500	35800	41400	--
3	22	11400	17500	21900	27900	32700	--
7	22	8790	12600	15000	17900	19800	--
15	22	6560	8990	10500	12200	13400	--
30	22	5180	6850	7820	8920	9660	--
60	22	4360	5620	6330	7100	7600	--
90	22	3920	4910	5420	5950	6290	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
13100	21400	34700	44700	58500	69600	--	

Systematic n = 26 historical n = 0
Weighted skew = -0.015

WILLAMETTE RIVER BASIN

14182500 LITTLE NORTH SANTIAM RIVER NEAR MEHAMA, OR

LOCATION.--Lat $44^{\circ}47'30''$, long $122^{\circ}34'40''$, in NW 1/4 sec.16, T.9 S., R.2 E., Marion County, Hydrologic Unit 17090005, on left bank 2.0 mi east of Mehama and at mile 2.0.

DRAINAGE AREA.--112 mi² at cableway 1.2 mi downstream where all discharge measurements are made.

PERIOD OF RECORD.--October 1931 to 1987. Records for July to September 1924 and July to September 1931 at site 4 mi upstream not equivalent owing to difference in drainage areas.

REVISED RECORDS.--WSP 754: 1932. WSP 1218: 1934, 1936, 1949-50. WSP 1935: Maximum only, 1932-34, 1936, 1938, 1943, 1945-49, 1950(M,P), 1951-53(M), 1954(M,P), 1955(M), 1956(M,P), 1957(M), 1958-59(M,P). WSP 2135: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 655.41 ft above National Geodetic Vertical Datum of 1929. Prior to June 12, 1948, nonrecording gage at about same site and datum.

REMARKS.--No regulation or diversion upstream from station. Records herein are for measuring site.

AVERAGE DISCHARGE.--56 years, 764 ft³/s, 92.64 in/yr, 553,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft³/s Dec. 22, 1964, gage height, 16.73 ft, from rating curve extended above 17,000 ft³/s; minimum discharge, 13 ft³/s Aug. 30, 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	55	29	23	20	19	17	16
3	55	29	23	21	19	18	17
7	55	30	24	22	20	19	18
14	55	33	26	23	21	20	19
30	55	37	29	25	23	21	20
60	55	50	36	31	27	24	22
90	55	68	46	38	33	28	26
120	55	106	68	54	44	35	31
183	55	260	183	151	128	107	94

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1932-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	56	8680	11900	14000	16500	18300	20100
3	56	6150	8290	9630	11200	12400	13500
7	56	4220	5530	6310	7220	7840	8420
15	56	2960	3780	4280	4850	5250	5620
30	56	2220	2860	3270	3750	4100	4440
60	56	1750	2220	2520	2880	3140	3390
90	56	1580	1960	2190	2470	2660	2850

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1932-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
9270	13000	18500	22300	27200	31000	34900	

Systematic n = 56 historical n = 0
Weighted skew = 0.081

WILLAMETTE RIVER BASIN

14183000 NORTH SANTIAM RIVER AT MEHAMA, OR

LOCATION.--Lat $44^{\circ}47'20''$, long $122^{\circ}37'00''$, in NW 1/4 sec.18, T.9 S., R.2 E., Marion County, Hydrologic Unit 17090005, on right bank 300 ft downstream from highway bridge at Mehama, 0.5 mi downstream from Little North Santiam River, and at mile 38.71.

DRAINAGE AREA.--655 mi², at cableway 0.8 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--July 1905 to March 1907, October 1910 to September 1914, September 1921 to 1987. Monthly discharge only September 1921, published in WSP 1318. Prior to October 1913, published as North Fork of Santiam River at Mehama.

REVISED RECORDS.--WSP 739: 1922-23(M). WSP 1044: 1943. WSP 1248: 1906, 1911-14, 1924(M), 1926, 1934-36(M), 1937, 1938(M), 1942(M). WSP 2135: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 602.49 ft above National Geodetic Vertical Datum of 1929. Prior to June 15, 1933, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--Flow regulated since 1953 by Detroit Lake (station 14180500) and Big Cliff Reservoir, usable capacity for re-regulating purposes, 2,930 acre-ft. No diversion upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--71 years (water years 1906, 1911-14, 1922-87), 3,374 ft³/s, 2,444,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s Dec. 28, 1945, gage height, 15.37 ft, from rating curve extended above 36,000 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 17.5 ft Nov. 20, 1921, from graph based on gage readings, and Jan. 6, 1923, from floodmark, at site then in use; minimum discharge, 254 ft³/s Aug. 3, 1970; minimum daily, 420 ft³/s Sept. 18, 1924.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1907-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	34	589	508	470	440	410	391
3	34	595	513	475	446	415	396
7	34	601	517	479	449	419	400
14	34	616	529	488	457	424	404
30	34	647	547	501	467	431	409
60	34	693	573	526	492	461	442
90	34	774	622	559	514	470	444
120	34	899	687	605	549	495	464
183	34	1450	1080	934	831	732	674

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	36	27300	38400	45700	54900	61800	68700
3	36	20100	28300	34000	41300	46800	52500
7	36	15000	19900	22700	25800	27900	29900
15	36	10900	14300	16400	18900	20700	22400
30	36	8530	10700	11900	13200	14100	14900
60	36	6770	8180	8920	9710	10200	10600
90	36	6100	7170	7690	8200	8500	8750

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
23900	34200	48700	58300	70600	79800	89000	

Systematic n = 37 historical n = 0
Weighted skew = -0.069

WILLAMETTE RIVER BASIN

14183000 NORTH SANTIAM RIVER AT MEHAMA, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	33	1060	946	886	835	779	741
3	33	1090	967	902	848	787	747
7	33	1120	988	919	861	797	755
14	33	1140	1000	933	876	812	770
30	33	1160	1030	967	915	859	823
60	33	1260	1110	1050	1000	951	920
90	33	1440	1240	1150	1080	1000	955
120	33	1630	1400	1290	1200	1120	1060
183	33	2110	1770	1610	1490	1360	1280

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1954-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	16600	20700	22400	23800	24600	25100
3	34	14400	16500	17100	17400	17500	17600
7	34	12800	15100	15900	16400	16600	16700
15	34	11200	13300	14100	14600	14800	15000
30	34	8920	11000	12000	12800	13200	13600
60	34	7150	9050	10000	11000	11600	12000
90	34	6430	8090	8910	9720	10200	10600

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR

LOCATION.--Lat 44°23'35", long 122°30'35", in SE 1/4 sec.36, T.13 S., R.2 E., Linn County, Hydrologic Unit 17090006, on left bank 100 ft downstream from bridge at Cascadia ranger station, 0.5 mi downstream from Mouse Creek, 0.5 mi upstream from Deer Creek, 1.5 mi southwest of Cascadia, and at mile 48.5.

DRAINAGE AREA.--174 mi², at cableway 0.7 mi upstream, where all discharge measurements are made.

PERIOD OF RECORD.--September 1935 to 1987. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 759.88 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1935, nonrecording gage.

REMARKS.--No regulation or diversion upstream from station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--52 years, 821 ft³/s, 64.08 in/yr, 594,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft³/s Dec. 22, 1964, gage height, 19.68 ft, from rating curve extended above 14,000 ft³/s; minimum discharge, 23 ft³/s Dec. 1, 2, 1936.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	48	39	35	31	28	25
3	51	49	40	36	32	29	26
7	51	51	41	37	33	29	27
14	51	54	43	38	34	30	28
30	51	60	47	42	37	33	30
60	51	71	55	48	43	38	34
90	51	85	63	55	49	43	40
120	51	117	81	67	57	48	43
183	51	270	183	148	122	98	84

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	8970	12900	15300	18100	20100	22000
3	52	6530	9190	10900	12900	14300	15600
7	52	4580	6190	7120	8170	8880	9530
15	52	3190	4140	4680	5260	5650	5990
30	52	2440	3130	3510	3940	4220	4480
60	52	1900	2410	2710	3080	3330	3580
90	52	1720	2150	2390	2670	2850	3030

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
8070	11900	17300	21000	25700	29200	32800

Systematic n = 52 historical n = 0
Weighted skew = -0.091

WILLAMETTE RIVER BASIN

14185800 MIDDLE SANTIAM RIVER NEAR CASCADIA, OR

LOCATION.--Lat 44°30'55", long 122°22'15", in NE 1/4 sec.19, T.12 S., R.4 E., Linn County, Hydrologic Unit 17090006, on right bank 5.6 mi downstream from Bear Creek, 10 mi northeast of Cascadia, and at mile 17.5.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--August 1963 to September 1981.

GAGE.--Water-stage recorder. Elevation of gage is 1,040 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 630 ft³/s, 82.26 in/yr, 456,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s Dec. 22, 1964, gage height, 15.75 ft, from floodmark, from rating curve extended above 7,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 28 ft³/s Oct. 17, 26, 27, 1974.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	45	36	33	30	--	--
3	17	45	37	33	30	--	--
7	17	46	38	34	31	--	--
14	17	50	40	36	33	--	--
30	17	56	45	40	36	--	--
60	17	67	52	46	42	--	--
90	17	80	61	53	48	--	--
120	17	99	75	65	58	--	--
183	17	198	148	127	113	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	6280	9360	11100	13000	--	--
3	18	4750	7070	8500	10200	--	--
7	18	3450	4870	5670	6540	--	--
15	18	2420	3240	3700	4190	--	--
30	18	1830	2470	2860	3320	--	--
60	18	1450	1930	2240	2630	--	--
90	18	1280	1670	1930	2260	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5730	8100	11600	14000	17200	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.108

WILLAMETTE RIVER BASIN

14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR

LOCATION.--Lat 44°32'25", long 122°26'05", in NW 1/4 sec.10, T.12 S., R.3 E., Linn County, Hydrologic Unit 17090006, on Bureau of Land Management land, on right bank 80 ft downstream from Panther Creek, 10 mi north of Cascadia, and at mile 6.6.

DRAINAGE AREA.--99.2 mi².

PERIOD OF RECORD.--August 1963 to November 1964 (destroyed by flood of December 1964); October 1965 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,050 ft, from topographic map. Aug. 13, 1963, to Dec. 22, 1964, water-stage recorder on left bank at present datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--23 years (water years 1964, 1966-87), 674 ft³/s, 92.27 in/yr, 488,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft³/s Jan. 20, 1972, gage height, 16.38 ft; minimum discharge, 14 ft³/s Aug. 19-23, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s Dec. 22, 1964, from slope-area measurement of peak flow.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	29	21	18	16	14	--
3	21	29	22	19	16	14	--
7	21	30	22	19	16	14	--
14	21	32	24	20	17	15	--
30	21	36	27	24	21	19	--
60	21	47	34	30	27	24	--
90	21	61	44	38	34	30	--
120	21	88	60	50	42	35	--
183	21	201	140	115	97	79	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	8040	10600	12100	13800	15000	--
3	23	5910	7670	8630	9680	10400	--
7	23	4190	5380	5990	6610	6980	--
15	23	2840	3600	4000	4430	4700	--
30	23	2090	2610	2890	3180	3370	--
60	23	1620	2050	2320	2640	2880	--
90	23	1430	1800	2040	2340	2560	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
8210	11100	15900	19500	24800	29200	--

Systematic n = 24 historical n = 0
Weighted skew = 0.563

WILLAMETTE RIVER BASIN

14186000 MIDDLE SANTIAM RIVER NEAR FOSTER, OR

LOCATION.--Lat 44°27'35", long 122°31'25", in SE 1/4 sec.2, T.13 S., R.2 E., Linn County, Hydrologic Unit 17090006, 0.5 mi upstream from Green Peter Creek and 8 mi northeast of Foster.

DRAINAGE AREA.--271 mi².

PERIOD OF RECORD.--August 1931 to September 1947.

GAGE.--Staff gage. Datum of gage is 733.44 ft above National Geodetic Vertical Datum of 1929 (Northern Pacific Railway benchmark). Prior to Sept. 14, 1931, staff gage and Sept. 14, 1931, to Dec. 17, 1946, water-stage recorder, at same site and datum.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1932-47), 1,449 ft³/s, 1,050,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft³/s Dec. 28, 1945, gage height, 21.6 ft, from rating curve extended above 24,000 ft³/s by logarithmic plotting; minimum, 54 ft³/s Dec. 1, 1936, gage height, 1.25 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1947

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	77	65	60	56	--	--
3	15	78	66	61	57	--	--
7	15	80	67	62	58	--	--
14	15	84	69	63	59	--	--
30	15	92	76	69	65	--	--
60	15	108	85	76	70	--	--
90	15	124	97	88	83	--	--
120	15	174	121	102	89	--	--
183	15	420	282	230	194	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1932-1947

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	15500	22100	26800	33300	--	--
3	16	11200	16500	20400	25600	--	--
7	16	8110	11400	13500	15800	--	--
15	16	5760	7840	9110	10600	--	--
30	16	4470	5870	6630	7430	--	--
60	16	3580	4570	5110	5690	--	--
90	16	3160	3900	4290	4690	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1932-1947

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15500	20900	28400	33500	40100	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.132

WILLAMETTE RIVER BASIN

14186500 MIDDLE SANTIAM RIVER AT MOUTH, NEAR FOSTER, OR

LOCATION.--Lat 44°25'25", long 122°37'25", in NE 1/4 SE 1/4 sec.24, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, on right bank 2.7 mi northeast of Foster, and at mile 0.7.

DRAINAGE AREA.--287 mi².

PERIOD OF RECORD.--October 1950 to September 1966. Prior to January 1951 monthly discharge only, published in WSP 1738.

GAGE.--Water-stage recorder. Datum of gage is 562.14 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 25, 1952, staff gage at same site and datum.

REMARKS.--Slight regulation from construction of Green Peter Dam upstream from station.

AVERAGE DISCHARGE.--16 years, 1,775 ft³/s, 1,285,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,800 ft³/s Dec. 22, 1964, gage height, 25.80 ft, from rating curve extended above 34,000 ft³/s on the basis of slope-area measurement of peak flow; minimum, 66 ft³/s Sept. 10, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1952-1966

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	15	101	84	77	72	--	--	
3	15	102	85	78	73	--	--	
7	15	105	87	79	74	--	--	
14	15	110	90	82	77	--	--	
30	15	124	100	90	83	--	--	
60	15	155	121	105	94	--	--	
90	15	178	138	122	111	--	--	
120	15	232	171	149	135	--	--	
183	15	549	394	332	289	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1951-1966

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	16	20200	29500	36100	45100	--	--	
3	16	14600	21000	26000	33300	--	--	
7	16	9470	13300	16400	20900	--	--	
15	16	6790	9000	10600	12700	--	--	
30	16	5160	6970	8280	10100	--	--	
60	16	4040	5290	6160	7300	--	--	
90	16	3660	4620	5270	6130	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1951-1966

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
19600	27400	38900	47000	57800	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.154

WILLAMETTE RIVER BASIN

14187000 WILEY CREEK NEAR FOSTER, OR

LOCATION.--Lat 44°22'20", long 122°37'20", in NE 1/4 NE 1/4 sec.12, T.14 S., R.1 E., Linn County, Hydrologic Unit 17090006, on right bank 0.5 mi downstream from Little Wiley Creek, 3.5 mi southeast of Foster, and at mile 4.4.

DRAINAGE AREA.--51.8 mi².

PERIOD OF RECORD.--October 1947 to July 1973.

GAGE.--Water-stage recorder. Elevation of gage is 716.08 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Apr. 6, 1965, water-stage recorder at present site and datum 2.00 ft higher. Apr. 6 to Aug. 17, 1965, nonrecording gage at present site and datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--25 years (1948-72), 224 ft³/s, 58.72 in/yr, 162,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,640 ft³/s Jan. 21, 1972, gage height, 9.28 ft, from rating curve extended above 3,700 ft³/s; maximum gage height, 11.80 ft, present datum, Dec. 21, 1964 (backwater from debris); minimum discharge, 5.6 ft³/s Nov. 26, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1949-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	9.8	7.9	7.0	6.5	5.9	--
3	24	10	8.1	7.2	6.6	6.0	--
7	24	10	8.5	7.6	7.0	6.4	--
14	24	11	9.0	8.1	7.4	6.7	--
30	24	13	10	9.0	8.2	7.5	--
60	24	16	12	11	9.6	8.6	--
90	24	19	14	12	11	10	--
120	24	26	19	16	13	11	--
183	24	60	43	35	30	24	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1948-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	2550	3760	4680	5960	7020	8160
3	25	1950	2720	3280	4040	4650	5300
7	25	1340	1840	2200	2670	3040	3430
15	25	944	1230	1410	1620	1780	1940
30	25	711	876	982	1110	1210	1310
60	25	558	691	784	906	1000	1100
90	25	492	596	665	755	823	892

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1948-1972

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2380	3550	5380	6740	8620	10100	11700	

Systematic n = 25 historical n = 0
Weighted skew = 0.158

WILLAMETTE RIVER BASIN

14187100 WILEY CREEK AT FOSTER, OR

LOCATION.--Lat 44°23'55", long 122°39'35", in SW 1/4 NW 1/4 sec.35, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, on left bank 1.5 mi downstream from Jackson Creek, 1.0 mi southeast of Foster, and at mile 1.4.

DRAINAGE AREA.--62.3 mi².

PERIOD OF RECORD.--October 1973 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 590 ft, from topographic map. Prior to May 2, 1974, at present site at datum 5.00 ft lower.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 233 ft³/s, 50.79 in/yr, 168,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,320 ft³/s Jan. 15, 1974, gage height, 9.28 ft; minimum discharge, 3.1 ft³/s Oct. 19, 1973.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	8.3	5.9	4.9	--	--	--
3	13	8.5	6.0	5.0	--	--	--
7	13	9.0	6.3	5.3	--	--	--
14	13	9.9	6.9	5.7	--	--	--
30	13	12	8.3	6.6	--	--	--
60	13	15	11	8.7	--	--	--
90	13	19	13	11	--	--	--
120	13	26	18	15	--	--	--
183	13	57	41	36	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	2430	3190	3520	3820	--	--
3	14	1770	2350	2660	2980	--	--
7	14	1310	1680	1860	2040	--	--
15	14	974	1180	1270	1350	--	--
30	14	758	906	965	1010	--	--
60	14	576	714	781	845	--	--
90	14	497	635	722	830	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1974-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2570	3300	4270	4910	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.154

WILLAMETTE RIVER BASIN

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR

LOCATION.--Lat 44°24'45", long 122°41'15", in SE 1/4 NE 1/4 sec.28, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, on left bank 0.6 mi downstream from Wiley Creek and at mile 37.0.

DRAINAGE AREA.--557 mi².

PERIOD OF RECORD.--August 1973 to 1987. Records for October 1966 to July 1973 (published as South Santiam River at Foster, station 14186700) at site 0.5 mi upstream not equivalent owing to inflow between sites.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft, from topographic map.

REMARKS.--Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). No diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 2,927 ft³/s, 71.36 in/yr, 2,121,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,800 ft³/s Feb. 26, 1982, gage height, 16.61 ft; minimum discharge, 425 ft³/s July 26, 1976.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	630	541	496	--	--	--
3	13	643	549	501	--	--	--
7	13	670	567	515	--	--	--
14	13	680	575	522	--	--	--
30	13	703	602	550	--	--	--
60	13	749	678	647	--	--	--
90	13	820	748	719	--	--	--
120	13	987	856	797	--	--	--
183	13	1340	1150	1080	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	14500	15800	16000	16100	--	--
3	14	13700	14800	15000	15100	--	--
7	14	13000	14200	14300	14400	--	--
15	14	11400	12900	13200	13300	--	--
30	14	9160	11100	11700	12200	--	--
60	14	7320	9160	9860	10400	--	--
90	14	6350	8030	8730	9310	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR

LOCATION.--Lat 44°29'55", long 122°49'20", in SW 1/4 NW 1/4 sec.28, T.12 S., R.1 W., Linn County, Hydrologic Unit 17090006, on left bank 0.1 mi downstream from highway bridge at Waterloo, 2.1 mi upstream from Hamilton Creek, and at mile 23.3.

DRAINAGE AREA.--640 mi².

PERIOD OF RECORD.--July 1905 to March 1907, October 1910 to December 1911 (gage heights only January to December 1911), July 1923 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as South Fork of Santiam River at Waterloo 1905-07, 1910-11.

REVISED RECORDS.--WSP 1248: 1907, 1924-30, 1932.

GAGE.--Water-stage recorder. Datum of gage is 370.39 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 31, 1911, nonrecording gage at site 0.5 mi downstream at datum about 5.0 ft lower. July 1, 1923, to Nov. 12, 1934, nonrecording gage, at present site and datum.

REMARKS.--Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). No diversion upstream from station.

AVERAGE DISCHARGE.--65 years (water years 1906, 1924-87), 2,944 ft³/s, 2,133,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,200 ft³/s Dec. 22, 1964, gage height, 24.50 ft; minimum discharge, 61 ft³/s Oct. 12, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	148	122	111	103	95	91
3	41	150	123	112	104	96	91
7	41	155	127	113	105	96	91
14	41	163	131	118	108	99	93
30	41	183	145	129	118	110	100
60	41	222	169	147	131	115	105
90	41	265	194	167	148	129	119
120	41	365	246	202	173	147	132
183	41	837	572	470	401	335	297

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	43	29400	42000	50700	62100	70700	79600
3	43	22000	31400	38000	47000	54000	61300
7	43	15700	21300	24900	29200	32400	35600
15	43	11400	14600	16600	18900	20500	22000
30	43	8730	11200	12600	14300	15400	16500
60	43	6860	8670	9820	11200	12200	13200
90	43	6150	7660	8590	9700	10500	11200

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1965

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
26300	37900	54600	66100	80900	92200	103700	

Systematic n = 44 historical n = 0
Weighted skew = -0.012

WILLAMETTE RIVER BASIN

14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	580	493	452	420	386	--
3	20	594	503	459	424	387	--
7	20	616	519	471	433	392	--
14	20	626	528	479	441	400	--
30	20	652	556	508	471	430	--
60	20	716	616	573	542	510	--
90	20	839	694	627	576	522	--
120	20	1000	809	718	648	574	--
183	20	1370	1100	977	886	794	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	15100	16700	17100	17200	17300	--
3	21	14000	15200	15400	15500	15500	--
7	21	13100	14200	14400	14400	14400	--
15	21	11300	13000	13400	13700	13800	--
30	21	9070	10900	11700	12300	12600	--
60	21	7370	9060	9760	10300	10600	--
90	21	6530	8000	8610	9120	9370	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14188800 THOMAS CREEK NEAR SCIO, OR

LOCATION.--Lat $44^{\circ}42'42''$, long $122^{\circ}45'55''$, in SE 1/4 SE 1/4 sec.11, T.10 S., R.1 W., Linn County, Hydrologic Unit 17090006, on left bank 0.3 mi upstream from bridge on State Highway 226, 1.6 mi upstream from Mill Creek, 4.2 mi east of Scio, and at mile 14.6.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--October 1962 to September 1987 (discontinued).

REVISED RECORDS.--WDR OR-71-1: 1965(P), 1966(P), 1969(P).

GAGE.--Water-stage recorder. Datum of gage is 380.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--25 years, 496 ft³/s, 61.80 in/yr, 359,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s Dec. 22, 1964, gage height, 18.44 ft, from rating curve extended above 7,200 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 19.58 ft Jan. 21, 1972, backwater from debris; minimum discharge, 7.8 ft³/s Aug. 20, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1964-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	18	13	11	10	8.9	--
3	24	19	14	12	11	9.6	--
7	24	20	15	13	12	10	--
14	24	21	16	14	12	11	--
30	24	25	18	15	13	11	--
60	24	32	23	19	17	15	--
90	24	41	28	24	21	18	--
120	24	56	38	31	27	23	--
183	24	124	88	74	64	55	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	5120	7090	8300	9730	10700	11700
3	25	3810	5250	6240	7520	8510	9520
7	25	2910	3870	4470	5190	5700	6190
15	25	2100	2660	2990	3350	3600	3830
30	25	1610	1980	2180	2390	2530	2650
60	25	1240	1560	1750	1960	2110	2250
90	25	1100	1380	1560	1760	1910	2050

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1963-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
4840	7320	11400	14500	18800	22400	26300	

Systematic n = 25 historical n = 0
Weighted skew = 0.215

WILLAMETTE RIVER BASIN

14189000 SANTIAM RIVER AT JEFFERSON, OR

LOCATION.--Lat $44^{\circ}42'55''$, long $122^{\circ}00'40''$, in SE 1/4 sec.11, T.10 S., R.3 W., Marion County, Hydrologic Unit 17090005, on right bank 350 ft upstream from Southern Pacific railroad bridge at Jefferson, 2.1 mi downstream from confluence of North and South Santiam Rivers, and at mile 9.62.

DRAINAGE AREA.--1,790 mi², approximately.

PERIOD OF RECORD.--October 1905 to June 1906 (gage heights and discharge measurements only), October 1907 to September 1916, October 1939 to 1987. Gage-height records collected at same site since 1907 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 904: Drainage area. WSP 1094: 1908, 1910, 1912, 1943. WSP 1248: 1911, 1915-16(M). WSP 1935: 1909.

GAGE.--Water-stage recorder. Datum of gage is 199.63 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1940, nonrecording gages at sites within 350 ft downstream at datum 3.00 ft higher.

REMARKS.--Flow regulated since 1953 by Detroit Lake (station 14180500), since 1966 by Green Peter Lake (station 14186100) and by Foster Lake (station 14186600). Salem Canal diverts from North Santiam River at Stayton for irrigation and power; most of this water reaches Willamette River by way of Mill Creek at Salem. Stayton Canal diverts from North Santiam River at Stayton for irrigation of lands near town of West Stayton; some return flow reaches North Santiam River upstream from station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany.

AVERAGE DISCHARGE.--57 years (water years 1908-16, 1940-87), 7,795 ft³/s, 5,647,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft³/s Dec. 22, 1964, gage height, 24.22 ft; minimum discharge observed, 260 ft³/s Aug. 15-22, Aug. 24 to Sept. 2, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 25.0 ft was reached in December 1861, and 23.4 ft in February 1890 (information from Corps of Engineers). On Nov. 21, 1921, the stage reached 19.5 ft at gage on railroad bridge 350 ft downstream, corresponding gage height at present site and datum, 24.4 ft, from curve of relation, discharge, 202,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1909-1953

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	500	369	316	278	242	--
3	21	503	371	318	281	244	--
7	21	508	376	323	285	249	--
14	21	531	394	338	299	261	--
30	21	563	416	360	322	285	--
60	21	645	481	426	390	359	--
90	21	813	565	475	417	362	--
120	21	1190	763	604	497	399	--
183	21	2580	1830	1520	1290	1070	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1908-1953

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	66200	97400	118000	143000	162000	--
3	23	51100	71900	84900	100000	111000	--
7	23	40300	53900	60700	67400	71200	--
15	23	29100	36800	40400	43700	45600	--
30	23	22200	28400	31300	34100	35700	--
60	23	17500	22000	24200	26400	27700	--
90	23	15800	19200	20800	22300	23200	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1908-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
50600	76000	114600	142200	179200	208200	--	

Systematic n = 22 historical n = 62
Weighted skew = 0.032

WILLAMETTE RIVER BASIN

14189000 SANTIAM RIVER AT JEFFERSON, OR--Continued

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	1300	1180	1110	1070	1010	--
3	20	1320	1190	1130	1080	1030	--
7	20	1350	1220	1160	1100	1050	--
14	20	1400	1250	1180	1120	1050	--
30	20	1480	1310	1230	1160	1090	--
60	20	1700	1440	1330	1250	1170	--
90	20	2070	1700	1530	1400	1270	--
120	20	2530	2050	1820	1650	1460	--
183	20	3480	2850	2580	2380	2190	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	44900	54900	58200	60400	61300	--
3	21	38500	43600	44600	45000	45100	--
7	21	33900	37400	37900	38000	38100	--
15	21	28800	32600	33300	33600	33700	--
30	21	23500	27600	28900	29700	29900	--
60	21	19000	23000	24300	25300	25700	--
90	21	16600	20200	21500	22600	23100	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14189500 LUCKIAMUTE RIVER NEAR HOSKINS, OR

LOCATION.--Lat $44^{\circ}43'10''$, long $123^{\circ}30'10''$, in NE 1/4 sec.11, T.10 S., R.7 W., Benton County, Hydrologic Unit 17090003, on right bank 0.2 mi downstream from Benton County Line, 3.5 mi northwest of Hoskins, and at mile 43.2.

DRAINAGE AREA.--34.3 mi².

PERIOD OF RECORD.--May 1934 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 378.7 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Logponds upstream cause diurnal fluctuation at times. Minor diversion upstream from station by pumping for irrigation.

AVERAGE DISCHARGE.--44 years, 209 ft³/s, 82.75 in/yr, 151,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft³/s Dec. 14, 1946, Feb. 17, 1949; maximum gage height, 13.22 ft Dec. 14, 1946; minimum discharge, 4.0 ft³/s Sept. 5-8, 1962.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1936-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	43	9.3	7.3	6.4	5.8	5.1	4.7
3	43	9.5	7.6	6.7	6.1	5.4	5.0
7	43	9.7	7.8	7.0	6.4	5.7	5.4
14	43	10	8.3	7.4	6.8	6.1	5.8
30	43	11	9.1	8.3	7.7	7.0	6.7
60	43	13	11	9.5	8.7	7.9	7.4
90	43	15	12	11	9.7	8.7	8.2
120	43	19	15	13	11	10	9.2
183	43	37	27	23	20	17	15

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1935-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	44	2280	2970	3420	3990	4410	4840
3	44	1750	2230	2570	3010	3360	3710
7	44	1300	1630	1840	2090	2270	2450
15	44	967	1190	1320	1460	1560	1640
30	44	735	906	995	1090	1140	1190
60	44	581	717	789	862	908	948
90	44	526	645	701	753	783	807

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1935-1978

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
2260	3010	4000	4630	5410	5980	6540	

Systematic n = 44 historical n = 0

Weighted skew = -0.037

WILLAMETTE RIVER BASIN

14190000 LUCKIAMUTE RIVER AT PEDEE, OR

LOCATION.--Lat 44°44'35", long 123°25'25", in SE 1/4 sec.33, T.9 S., R.6 W., Polk County, Hydrologic Unit 17090003, on left bank 0.5 mi downstream from Pedee Creek, 1.0 mi southwest of Pedee, and at mile 29.7.

DRAINAGE AREA.--115 mi².

PERIOD OF RECORD.--October 1940 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 245.47 ft above National Geodetic Vertical Datum of 1929. Prior to July 1, 1949, nonrecording gage at site 1,700 ft downstream at datum 1.85 ft lower.

REMARKS.--Some diurnal fluctuation at low flow caused by logponds upstream from station. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--30 years, 458 ft³/s, 331,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s Dec. 22, 1964, gage height, 20.09 ft, from rating curve extended above 8,000 ft³/s; minimum, 7.0 ft³/s Sept. 12, 1944, Aug. 25, 30, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	13	10	8.8	7.9	6.9	6.3
3	29	14	11	9.7	8.7	7.6	7.0
7	29	16	12	11	9.4	8.3	7.6
14	29	17	13	11	10	8.7	7.9
30	29	19	15	12	11	9.4	8.4
60	29	23	17	15	13	11	9.4
90	29	28	20	17	14	12	11
120	29	36	26	22	19	15	14
183	29	76	54	45	37	30	26

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	4770	6400	7740	9730	11500	13400
3	30	3820	5040	6040	7520	8800	10300
7	30	2930	3830	4450	5280	5930	6600
15	30	2190	2830	3220	3670	3990	4290
30	30	1680	2130	2360	2590	2730	2850
60	30	1300	1660	1860	2080	2230	2360
90	30	1180	1490	1660	1830	1940	2040

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4780	6300	8640	10400	12700	14600	16700	

Systematic n = 30 historical n = 0

Weighted skew = 0.463

WILLAMETTE RIVER BASIN

14190500 LUCKIAMUTE RIVER NEAR SUVER, OR

LOCATION.--Lat 44°47'00", long 123°14'00", in SW 1/4 SW 1/4 sec.18, T.9 S., R.4 W., Polk County, Hydrologic Unit 17090003, on right bank 10 ft upstream from highway bridge at Helmick State Park, 3.0 mi northwest of Suver, 4.7 mi downstream from Little Luckiamute River, and at mile 13.5.

DRAINAGE AREA.--240 mi².

PERIOD OF RECORD.--August 1905 to October 1911, July 1940 to 1987.

REVISED RECORDS.--WSP 1044: Drainage area. WSP 1094: 1945-46. WSP 1248: 1905-11.

GAGE.--Water-stage recorder. Datum of gage is 171.92 ft above National Geodetic Vertical Datum of 1929. Aug. 18, 1905, to Oct. 31, 1911, nonrecording gage at present site at different datum, Aug. 20 to Oct. 15, 1940, nonrecording gage at present site and datum.

REMARKS.--Some diurnal fluctuation during periods of low flow caused by millpond upstream from station. A few small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--53 years, 905 ft³/s, 51.20 in/yr, 655,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft³/s Dec. 22, 1964, gage height, 34.52 ft; minimum discharge, 0.65 ft³/s Aug. 13, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	46	26	16	11	7.4	4.6	3.2
3	46	27	17	12	8.5	5.5	4.0
7	46	28	18	13	9.8	6.7	5.0
14	46	29	20	15	12	8.6	6.9
30	46	32	22	17	14	10	8.5
60	46	39	27	22	19	15	13
90	46	46	33	28	24	20	17
120	46	60	43	36	31	26	23
183	46	128	92	76	65	54	47

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	53	10100	14500	17400	21300	24300	27300
3	53	8180	11300	13300	16100	18100	20200
7	53	6280	8320	9540	11000	12000	12900
15	53	4560	5850	6560	7330	7830	8280
30	53	3440	4320	4760	5190	5450	5660
60	53	2720	3410	3750	4070	4260	4410
90	53	2420	3020	3280	3510	3630	3730

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
7860	11400	16900	20800	26100	30300	34800	

Systematic n = 53 historical n = 0
Weighted skew = 0.131

WILLAMETTE RIVER BASIN

14190700 RICKREALL CREEK NEAR DALLAS, OR

LOCATION.--Lat $44^{\circ}54'55''$, long $123^{\circ}23'02''$, in SW 1/4 SE 1/4 sec.35, T.7 S., R.6 W., Polk County, Hydrologic Unit 17090007, on left bank 1.8 mi downstream from Canyon Creek, 3.5 mi west of Dallas, 5.1 mi downstream from Aaron Mercer Reservoir, and at mile 19.1.

DRAINAGE AREA.--27.4 mi².

PERIOD OF RECORD.--August 1957 to September 1978.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 460 ft, from topographic map.

REMARKS.--Low flow regulated since June 1960 by Aaron Mercer Reservoir, usable capacity, 2,010 acre-ft. Diversion for city of Dallas municipal supply from four tributaries and Rickreall Creek upstream from station.

COOPERATION.--Records of diversion, monthend elevations of reservoir, and reservoir capacity curve furnished by city of Dallas.

AVERAGE DISCHARGE.--21 years (water years 1958-78), 148 ft³/s, 73.35 in/yr, 107,200 acre-ft/yr, adjusted for diversion and storage.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,160 ft³/s Dec. 22, 1964, gage height, 8.78 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	1.9	0.6	0.2	0.1	--	--
3	17	2.2	0.9	0.5	0.3	--	--
7	17	2.4	1.4	1.0	0.8	--	--
14	17	2.7	1.6	1.2	0.9	--	--
30	17	3.2	2.0	1.5	1.2	--	--
60	17	4.2	2.6	2.0	1.6	--	--
90	17	4.9	3.3	2.6	2.2	--	--
120	17	6.4	4.4	3.5	3.0	--	--
183	17	16	11	8.6	7.3	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	2380	3420	4040	4760	--	--
3	18	1690	2340	2750	3230	--	--
7	18	1180	1560	1770	2000	--	--
15	18	822	1020	1120	1220	--	--
30	18	605	717	759	792	--	--
60	18	475	575	610	635	--	--
90	18	411	499	528	548	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14191000 WILLAMETTE RIVER AT SALEM, OR

LOCATION.--Lat 44°56'40", long 123°02'30", in SE 1/4 SW 1/4 sec. 22, T.7 S., R.3 W., Marion County, Hydrologic Unit 17090007, on right bank 300 ft upstream from Center Street Bridge in Salem and at mile 84.16.

DRAINAGE AREA.--7,280 mi², approximately.

PERIOD OF RECORD.--October 1909 to December 1916, January 1923 to 1987. Monthly discharge only January 1923 to September 1927, published in WSP 1318. Gage-height records collected at about the same site since 1892 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1318: 1915(M).

GAGE.--Water-stage recorder. Datum of gage is 106.14 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1909, to Dec. 31, 1916, nonrecording gage at site 0.5 mi upstream at datum 8.00 ft higher. Jan. 1, 1923, to Nov. 26, 1934, nonrecording gage at Center Street Bridge at datum 8.00 ft higher. Nov. 27, 1934, to Sept. 30, 1962, water-stage recorder at present site at datum 8.00 ft higher.

REMARKS.--Flow regulated by reservoirs upstream from station. Many small diversions for irrigation upstream from station; part of flow of Salem Canal, which diverts water from North Santiam River, returns to Willamette River downstream from station, through Mill Creek at Salem.

AVERAGE DISCHARGE.--71 years, 23,610 ft³/s, 44.04 in/yr, 17,110,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 348,000 ft³/s Jan. 8, 1923, gage height, 38.3 ft, present datum; minimum discharge, 2,470 ft³/s Aug. 27, 1940, gage height, 3.55 ft, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 500,000 ft³/s Dec. 4, 1861, gage height, about 47 ft present datum, from rating curve extended above 250,000 ft³/s in 1916. Floods of Jan. 16, 1881, and Feb. 5, 1890, reached stages of 44.3 ft, discharge, 428,000 ft³/s, and 45.1 ft, discharge, 448,000 ft³/s, respectively, from floodmarks and information by Corps of Engineers.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1911-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	3260	2870	2700	2560	2420	--
3	24	3280	2900	2720	2580	2430	--
7	24	3310	2920	2740	2600	2460	--
14	24	3360	2950	2770	2630	2480	--
30	24	3460	3010	2820	2680	2530	--
60	24	3630	3080	2880	2760	2640	--
90	24	3980	3280	3010	2820	2650	--
120	24	4410	3530	3210	2990	2790	--
183	24	6920	5250	4620	4190	3790	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1910-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	144900	201600	238900	285800	320400	354900
3	25	135000	182100	211500	246700	271800	295900
7	25	110100	142500	161300	182400	196700	209800
15	25	81700	103600	116700	131800	142300	152200
30	25	62600	77300	85200	93500	98800	103600
60	25	49100	60400	67000	74700	79900	84900
90	25	43500	52700	57900	63600	67400	70900

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1862-1941

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
115400	162300	232800	283500	351900	406000	462900	

Systematic n = 49 historical n = 129
Weighted skew = 0.205

WILLAMETTE RIVER BASIN
14191000 WILLAMETTE RIVER AT SALEM, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT							
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%		
		1	18	6400	5620	5160	4770	--	--
		3	18	6450	5660	5210	4820	--	--
		7	18	6520	5750	5310	4940	--	--
		14	18	6620	5840	5410	5040	--	--
		30	18	6750	6010	5610	5290	--	--
		60	18	7150	6360	6020	5780	--	--
		90	18	7960	6910	6430	6060	--	--
		120	18	9030	7840	7270	6830	--	--
		183	18	11200	9540	8810	8260	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%		
		1	19	121100	150600	161300	169000	--	--
		3	19	116600	140700	147900	152100	--	--
		7	19	105200	122000	125700	127400	--	--
		15	19	90000	103000	105400	106400	--	--
		30	19	75100	85300	87000	87700	--	--
		60	19	60900	73100	76300	77900	--	--
		90	19	52200	64900	69400	72700	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14192500 SOUTH YAMHILL RIVER NEAR WILLAMINA, OR

LOCATION.--Lat 45°02'50", long 123°30'10", in NE 1/4 SE 1/4 sec.14, T.6 S., R.7 W., Polk County, Hydrologic Unit 17090008, on left bank 2.3 mi southwest of Willamina, 2.8 mi upstream from Willamina Creek, and at mile 45.5.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--May 1934 to 1987.

REVISED RECORDS.--WSP 814: Drainage area. WSP 1318: 1934.

GAGE.--Water-stage recorder. Datum of gage is 235.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Slight regulation occasionally at low flows by millpond upstream. No diversion upstream from station.

AVERAGE DISCHARGE.--53 years, 620 ft³/s, 63.31 in/yr, 449,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft³/s Dec. 22, 1964, gage height, 17.07 ft; minimum discharge, 2.6 ft³/s Oct. 11, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	52	13	8.6	6.9	5.7	4.6	3.9
3	52	13	9.2	7.5	6.3	5.1	4.4
7	52	14	9.9	8.1	6.8	5.6	4.8
14	52	15	11	9.0	7.6	6.2	5.4
30	52	18	13	10	8.8	7.3	6.4
60	52	23	16	13	11	9.2	8.1
90	52	29	20	16	14	11	10
120	52	40	27	22	18	15	13
183	52	93	63	51	43	34	30

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1935-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	53	7200	9260	10500	11900	12900	13800
3	53	5540	7070	8040	9220	10100	10900
7	53	4110	5120	5690	6320	6750	7140
15	53	3020	3720	4090	4490	4750	4980
30	53	2300	2750	2960	3150	3250	3340
60	53	1790	2180	2380	2580	2710	2820
90	53	1600	1950	2130	2290	2390	2470

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1935-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
7030	9350	12300	14000	16200	17700	19100	

Systematic n = 53 historical n = 0
Weighted skew = -0.182

WILLAMETTE RIVER BASIN

14193000 WILLAMINA CREEK NEAR WILLAMINA, OR

LOCATION.--Lat $45^{\circ}08'35''$, long $123^{\circ}29'35''$, in NE 1/4 NW 1/4 sec.13, T.5 S., R.7 W., Yamhill County, Hydrologic Unit 17090008, on right bank 4.5 mi north of Willamina and at mile 6.2.

DRAINAGE AREA.--64.7 mi².

PERIOD OF RECORD.--June 1934 to 1987.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 315 ft above National Geodetic Vertical Datum of 1929 (plane-table survey). Prior to Oct. 1, 1939, water-stage recorder at site on left bank at datum 1.00 ft higher. Oct. 1, 1939, to Aug. 5, 1968, water-stage recorder at site on left bank at present datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--53 years, 260 ft³/s, 54.57 in/yr, 188,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s Dec. 22, 1964, gage height, 13.54 ft, from rating curve extended above 3,400 ft³/s on basis of slope-area measurement at gage height 11.65 ft; minimum discharge, 5.4 ft³/s July 15, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1931, reached a stage of about 12 ft, from information by local resident, discharge, 8,200 ft³/s, from rating curve extended above 3,400 ft³/s on basis of slope-area measurement at gage height 11.65 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	52	12	10	9.5	8.9	8.3	8.0
3	52	13	11	9.9	9.3	8.7	8.3
7	52	13	11	10	9.5	8.9	8.5
14	52	14	12	11	10	9.4	9.0
30	52	15	13	12	11	10	9.9
60	52	18	14	13	12	11	11
90	52	21	17	15	14	12	12
120	52	25	20	17	16	14	13
183	52	47	35	29	25	21	19

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1935-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	53	2780	3740	4370	5150	5740	6320
3	53	2140	2790	3230	3810	4250	4710
7	53	1620	2050	2310	2610	2820	3010
15	53	1230	1520	1660	1810	1910	1990
30	53	935	1130	1210	1290	1330	1360
60	53	732	908	998	1090	1140	1190
90	53	650	807	884	959	1000	1040

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1931-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2650	3670	5110	6090	7380	8360	9360	

Systematic n = 53 historical n = 57
Weighted skew = 0.093

WILLAMETTE RIVER BASIN

14193300 MILL CREEK NEAR WILLAMINA, OR

LOCATION.--Lat $44^{\circ}58'15''$, long $123^{\circ}26'55''$, in NE 1/4 NW 1/4 sec.17, T.7 S., R.6 W., Polk County, Hydrologic Unit 17090008, on left bank 0.2 mi upstream from bridge, 0.7 mi downstream from South Branch, 7.5 mi south of Willamina, and at mile 11.5.

DRAINAGE AREA.--27.4 mi².

PERIOD OF RECORD.--July 1958 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 140 ft³/s, 69.39 in/yr, 101,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,170 ft³/s Dec. 22, 1964, gage height, 11.47 ft; minimum, 2.6 ft³/s Sept. 8, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	3.9	3.4	3.1	2.9	--	--
3	14	4.0	3.4	3.1	2.9	--	--
7	14	4.1	3.5	3.3	3.1	--	--
14	14	4.3	3.7	3.4	3.2	--	--
30	14	4.7	3.8	3.5	3.2	--	--
60	14	5.4	4.2	3.8	3.5	--	--
90	14	6.6	4.9	4.3	4.0	--	--
120	14	8.6	6.3	5.4	4.8	--	--
183	14	21	15	12	10	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	2130	2920	3510	4310	--	--
3	15	1540	2010	2380	2920	--	--
7	15	1060	1320	1520	1790	--	--
15	15	774	933	1020	1130	--	--
30	15	561	640	678	714	--	--
60	15	429	509	549	590	--	--
90	15	369	427	455	482	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2320	3070	4100	4780	5640	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = 0.086

WILLAMETTE RIVER BASIN

14194000 SOUTH YAMHILL RIVER NEAR WHITESON, OR

LOCATION.--Lat 45°10'08", long 123°12'25", in NE 1/4 NW 1/4 sec.5, T.5 S., R.4 W., Yamhill County, Hydrologic Unit 17090008, near left bank on downstream side of Whiteson Bridge on State Highway 99W, 1.3 mi northwest of Whiteson, 1.4 mi downstream from Salt Creek, and at mile 16.71.

DRAINAGE AREA.--502 mi².

PERIOD OF RECORD.--July 1940 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 82.30 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1940, nonrecording gage at present site and datum.

REMARKS.--Slight regulation during low-water periods by logpond upstream. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--47 years, 1,754 ft³/s, 47.45 in/yr, 1,271,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft³/s Dec. 23, 1964, gage height, 47.20 ft; minimum discharge, 3.2 ft³/s Aug. 24, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of 46.9 ft, from Oregon State Highway Department bridge plans.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	46	24	14	10	7.6	5.2	4.0
3	46	25	15	11	8.5	6.0	4.7
7	46	27	17	13	9.8	7.1	5.6
14	46	31	20	15	12	8.5	6.8
30	46	36	23	18	15	11	9.5
60	46	46	31	25	21	17	14
90	46	60	40	32	27	21	18
120	46	85	57	46	38	31	27
183	46	218	148	118	98	78	67

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	47	19500	25600	29000	32700	35200	37400
3	47	16400	20800	23000	25400	26800	28100
7	47	12500	15800	17500	19200	20200	21100
15	47	9210	11500	12500	13500	14100	14500
30	47	6910	8500	9190	9800	10100	10400
60	47	5380	6790	7470	8110	8480	8780
90	47	4740	5980	6550	7070	7350	7570

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
16300	21900	28700	32800	37500	40800	43900	

Systematic n = 47 historical n = 0
Weighted skew = -0.278

WILLAMETTE RIVER BASIN

14194300 NORTH YAMHILL RIVER NEAR FAIRDALE, OR

LOCATION.--Lat $45^{\circ}21'55''$, long $123^{\circ}22'40''$, in SW 1/4 sec.25, T.2 S., R.6 W., Yamhill County, Hydrologic Unit 17090008, on right bank 0.4 mi downstream from small tributary, 1.3 mi upstream from Kutch Creek, 2.1 mi west of Fairdale, 9.5 mi west of Yamhill and at mile 28.4.

DRAINAGE AREA.--9.03 mi².

PERIOD OF RECORD.--October 1958 to March 1966, October 1967 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1959-65, 1968-87), 47.0 ft³/s, 70.68 in/yr, 34,050 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,330 ft³/s Dec. 22, 1964, gage height, 6.88 ft, from rating curve extended above 1,000 ft³/s; maximum gage height, 9.7 ft Dec. 23, 1964 (backwater from debris); minimum discharge, 2.3 ft³/s Sept. 23-26, 1965.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	3.1	2.7	2.6	2.4	2.3	2.3
3	26	3.2	2.8	2.6	2.5	2.4	2.3
7	26	3.3	2.9	2.7	2.6	2.4	2.4
14	26	3.5	3.0	2.8	2.7	2.5	2.4
30	26	3.8	3.3	3.0	2.8	2.7	2.6
60	26	4.5	3.7	3.4	3.2	2.9	2.8
90	26	5.0	4.1	3.7	3.5	3.2	3.0
120	26	5.9	4.8	4.4	4.1	3.8	3.7
183	26	11	8.3	7.3	6.6	5.9	5.4

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	417	652	849	1150	1420	1730
3	27	332	479	593	757	896	1050
7	27	255	340	394	461	511	559
15	27	193	250	288	336	371	406
30	27	154	189	207	227	239	250
60	27	122	155	174	195	209	222
90	27	108	138	154	171	182	192

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
356	552	906	1200	1660	2060	2530	

Systematic n = 28 historical n = 0
Weighted skew = 0.442

WILLAMETTE RIVER BASIN

14195000 HASKINS CREEK NEAR McMINTNVILLE, OR

LOCATION.--Lat 45°18'50", long 123°21'55", in NE 1/4 sec.13, T.3 S., R.6 W., on left bank 150 ft downstream from Idlewild Creek, 0.5 mi upstream from Haskins Creek Dam, and 11 miles northwest of McMinnville.

DRAINAGE AREA.--6.48 mi².

PERIOD OF RECORD.--October 1928 to September 1951.

GAGE.--Water-stage recorder. Wooden control since September 1936. Elevation of gage is 815 ft above National Geodetic Vertical Datum of 1929 (by barometer). Prior to Oct. 1, 1930, at datum 1.00 ft higher.

REMARKS.--No regulation. Since Sept. 2, 1937, a small amount of water (average, 1.4 ft³/s) has been diverted at a point 800 ft upstream for municipal supply of McMinnville.

AVERAGE DISCHARGE.--23 years (1929-51), 26.4 ft³/s (19,110 acre-ft/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 610 ft³/s Mar. 31, 1931 (gage height, 4.00 ft, before control was built); minimum prior to diversion above station, 1.0 ft³/s Oct. 8, 1932.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	0.9	0.4	0.3	0.2	0.1	--
3	22	1.0	0.5	0.3	0.2	0.1	--
7	22	1.1	0.6	0.4	0.2	0.1	--
14	22	1.2	0.6	0.4	0.2	0.1	--
30	22	1.4	0.7	0.5	0.3	0.2	--
60	22	1.8	1.0	0.7	0.5	0.3	--
90	22	2.0	1.2	0.8	0.6	0.4	--
120	22	2.4	1.6	1.2	1.0	0.7	--
183	22	4.6	3.2	2.6	2.2	1.7	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	234	320	382	466	532	--
3	23	188	253	302	368	422	--
7	23	146	197	231	277	312	--
15	23	114	150	171	195	212	--
30	23	89	115	130	146	156	--
60	23	70	89	99	110	117	--
90	23	64	80	88	96	100	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
211	286	396	474	578	659	--	

Systematic n = 21 historical n = 0
Weighted skew = 0.244

WILLAMETTE RIVER BASIN

14196500 NORTH YAMHILL RIVER NEAR PIKE, OR

LOCATION.--Lat $45^{\circ}22'15''$, long $123^{\circ}17'10''$, in NE 1/4 sec.27, T.2 S., R.5 W., on left bank 1.3 miles west of Pike, 2.3 miles downstream from Haskins Creek, and 5.2 miles northwest of Yamhill.

DRAINAGE AREA.--47.8 mi².

PERIOD OF RECORD.--October 1940 to September 1951.

GAGE.--Water-stage recorder. Datum of gage is 249.22 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 23, 1940, staff gage at same site and datum.

REMARKS.--Occasional diurnal fluctuations caused by small dams upstream; no seasonal regulation. Water supply for city of McMinnville is diverted from Haskins Creek upstream from station.

AVERAGE DISCHARGE.--11 years (1940-51), 184 ft³/s (133,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,780 ft³/s Feb. 10, 1949 (gage height, 9.28 ft), from rating curve extended above 2,500 ft³/s by logarithmic plotting; minimum, 4.2 ft³/s Sept. 11, 1944; minimum daily, 6.0 ft³/s Sept. 10, 1944.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	8.4	7.2	6.6	--	--	--
3	10	8.6	7.4	6.8	--	--	--
7	10	9.1	7.8	7.1	--	--	--
14	10	9.4	8.1	7.6	--	--	--
30	10	10	8.9	8.4	--	--	--
60	10	12	10	9.9	--	--	--
90	10	14	12	11	--	--	--
120	10	17	15	14	--	--	--
183	10	33	29	26	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	2010	2480	2740	--	--	--
3	11	1490	1770	1920	--	--	--
7	11	1110	1390	1550	--	--	--
15	11	865	1090	1200	--	--	--
30	11	649	830	913	--	--	--
60	11	521	652	712	--	--	--
90	11	474	603	665	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2190	2780	3550	4060	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.136

WILLAMETTE RIVER BASIN

14197000 NORTH YAMHILL RIVER AT PIKE, OR.

LOCATION.--Lat $45^{\circ}22'10''$, long $123^{\circ}15'15''$, in NW 1/4 sec.25, T.2 S., R.5 W., Yamhill County, on right bank 500 ft downstream from Turner Creek, 0.5 mile southeast of Pike, 4.0 miles northwest of Yamhill, and at mile 20.5.

DRAINAGE AREA.--66.8 mi².

PERIOD OF RECORD.--October 1948 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 192.66 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 21, 1950, water-stage recorder at datum 1.02 ft higher.

AVERAGE DISCHARGE.--25 years, 242 ft³/s, 49.20 in/yr, 175,300 acre-ft/yr.

REMARKS.--Seasonal regulation by Haskins Creek Reservoir (station 14195500); occasional diurnal fluctuation caused by Haskins Creek Dam and smaller dams upstream. Water supply for city of McMinnville is diverted from Haskins Creek upstream from station and that for city of Yamhill is diverted from Turner Creek upstream from station. Smaller diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,530 ft³/s Dec. 21, 1955 (gage height, 12.42 ft), from rating curve extended above 2,600 ft³/s on basis of slope-area measurement of peak flow; minimum, 1.7 ft³/s Sept. 3, 1972.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1950-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	24	7.7	5.6	4.3	3.4	2.4	--
3	24	7.9	5.8	4.6	3.6	2.6	--
7	24	8.2	6.1	4.8	3.9	2.9	--
14	24	8.6	6.5	5.4	4.6	3.7	--
30	24	9.3	7.2	6.3	5.7	5.0	--
60	24	11	8.3	7.2	6.4	5.6	--
90	24	13	9.8	8.6	7.7	6.8	--
120	24	16	12	10	9.2	8.0	--
183	24	34	25	21	18	15	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1949-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25	2700	3680	4410	5420	6250	7140
3	25	2030	2620	3080	3740	4280	4880
7	25	1570	1940	2170	2450	2640	2830
15	25	1250	1510	1630	1750	1820	1870
30	25	936	1110	1200	1280	1330	1370
60	25	724	880	963	1050	1110	1160
90	25	638	762	822	883	919	949

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1949-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2970	3990	5590	6790	8460	9840	11300	

Systematic n = 25 historical n = 0
Weighted skew = 0.473

WILLAMETTE RIVER BASIN

14198000 WILLAMETTE RIVER AT WILSONVILLE, OR

LOCATION.--Lat $45^{\circ}17'57''$, long $122^{\circ}45'00''$, in SE 1/4 NE 1/4 sec.24, T.3 S., R.1 W., Clackamas County, on left bank, 0.2 miles downstream from Boeckman Creek, 1.1 miles downstream from bridge on Interstate Highway 5 at Wilsonville, and at mile 37.4.

DRAINAGE AREA.--8,400 mi², approximately.

PERIOD OF RECORD.--October 1948 to July 1973.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1954, nonrecording gage at Butteville, 5.9 mi upstream at same datum. Oct. 1, 1954, to Nov. 2, 1970, at site 1.1 mi upstream at same datum.

REMARKS.--Flow regulated by reservoirs upstream from station. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--24 years (1948-72), 28,900 ft³/s, 21,000,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 339,000 ft³/s Dec. 25, 1964, elevation, 94.74 ft; minimum daily, 3,600 ft³/s Nov. 29, 30, 1952. Flood of Dec. 4, 1861 reached a stage of about 105 ft at Wilsonville (discharge not determined).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1954-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	6060	5580	5330	5120	4870	--
3	20	6090	5620	5370	5160	4930	--
7	20	6160	5680	5430	5230	5020	--
14	20	6210	5720	5490	5320	5140	--
30	20	6360	5850	5620	5440	5260	--
60	20	6720	6070	5790	5590	5390	--
90	20	7290	6490	6150	5890	5630	--
120	20	8130	7140	6710	6400	6100	--
183	20	11200	9610	8870	8320	7740	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1949-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	145800	189000	223300	273700	316500	--
3	24	140300	180500	212300	258800	298200	--
7	24	125800	160800	186400	221500	249800	--
15	24	103100	130300	147900	170000	186300	--
30	24	84100	105100	118700	135600	148100	--
60	24	67300	84900	96900	112800	125000	--
90	24	60400	74900	84100	95400	103600	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14198500 MOLALLA RIVER ABOVE PINE CREEK, NEAR WILHOIT, OR

LOCATION.--Lat 45°00'35", long 122°28'45", in NE 1/4 NE 1/4 sec.31, T.6 S., R.3 E., Clackamas County, Hydrologic Unit 17090009, on right bank 0.5 mi upstream from Pine Creek, 5 mi southeast of Wilhoit, and at mile 32.5.

DRAINAGE AREA.--97.0 mi², at cableway 0.2 mi downstream.

PERIOD OF RECORD.--October 1935 to 1987.

REVISED RECORDS.--WSP 1738: Drainage area. WDR OR-75-1: 1967(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 791.35 ft above National Geodetic Vertical Datum of 1929 (Bureau of Public Roads bench mark). Oct. 1, 1935, to Sept. 30, 1945, and Oct. 1, 1945, to Feb. 9, 1961, water-stage recorder at site 0.3 mi downstream at datums 8.42 ft and 10.44 ft lower, respectively. Feb. 10, 1961, to July 21, 1966, water-stage recorder at site 0.2 mi downstream at datum 5.99 ft lower.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 540 ft³/s, 75.60 in/yr, 391,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft³/s Dec. 22, 1964, gage height, 16.3 ft, from floodmark, site and datum then in use, from rating curve extended above 5,200 ft³/s; minimum discharge, 18 ft³/s Oct. 3, 1965.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	51	30	24	22	20	19	18
3	51	30	24	22	20	19	18
7	51	31	25	23	21	20	19
14	51	33	27	24	22	20	19
30	51	37	29	26	24	22	21
60	51	46	35	31	28	25	24
90	51	57	42	37	33	29	27
120	51	80	56	46	40	34	30
183	51	170	124	105	92	79	72

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	52	5730	7680	8760	9920	10700	11300
3	52	4320	5740	6540	7420	7990	8510
7	52	3100	4060	4570	5100	5430	5710
15	52	2180	2770	3070	3380	3570	3730
30	52	1670	2100	2320	2540	2670	2790
60	52	1300	1640	1820	2020	2150	2270
90	52	1160	1450	1610	1780	1890	1990

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5520	7460	10500	12700	15800	18300	21000	

Systematic n = 52 historical n = 0
Weighted skew = 0.409

WILLAMETTE RIVER BASIN

14200000 MOLALLA RIVER NEAR CANBY, OR

LOCATION.--Lat $45^{\circ}14'40''$, long $122^{\circ}41'10''$, in NW 1/4 NE 1/4 sec.9, T.4 S., R.1 E., Clackamas County, Hydrologic Unit 17090009, on left bank on upstream side of Goods bridge, 1.5 mi south of Canby, and at mile 6.01.

DRAINAGE AREA.--323 mi².

PERIOD OF RECORD.--August 1928 to September 1959, October 1963 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 104.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1933, nonrecording gage and Oct. 24, 1933, to Sept. 26, 1955, water-stage recorder at present site and at datum 1.00 ft higher. Sept. 27, 1955, to June 3, 1956, water-stage recorder at site 145 ft downstream at present datum. June 4, 1956, to Sept. 30, 1959, water-stage recorder at site 0.3 mi downstream at datum 1.98 ft lower. Oct. 1, 1963, to May 4, 1964, nonrecording gage at present site and datum.

REMARKS.--No regulation. Numerous small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--46 years, 1,163 ft³/s, 48.90 in/yr, 842,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,600 ft³/s Dec. 22, 1964, gage height, 16.76 ft; minimum, 20 ft³/s Aug. 27, 1959.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	44	57	44	39	36	33	31
3	44	59	46	41	38	34	33
7	44	61	48	43	39	35	33
14	44	65	51	45	41	37	35
30	44	73	56	49	44	39	37
60	44	89	66	58	52	46	42
90	44	109	79	67	59	52	47
120	44	147	102	85	73	62	56
183	44	317	223	187	162	138	125

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1978

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	46	10900	15800	19000	23100	26100	29000
3	46	8590	12300	14600	17600	19700	21700
7	46	6510	8830	10100	11500	12500	13300
15	46	4770	6210	6920	7600	7990	8320
30	46	3710	4720	5200	5640	5880	6070
60	46	2880	3710	4180	4680	5010	5300
90	46	2580	3280	3670	4090	4370	4610

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1978

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
9170	13600	20200	25000	31300	36300	41400	

Systematic n = 46 historical n = 0
Weighted skew = 0.046

WILLAMETTE RIVER BASIN

14200300 SILVER CREEK AT SILVERTON, OR

LOCATION.--Lat 45°00'34", long 122°47'15", in NE 1/4 sec.34, T.6 S., R.1 W., Marion County, Hydrologic Unit 17090009, on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 mi upstream from Brush Creek, and at mile 3.4.

DRAINAGE AREA.--47.9 mi².

PERIOD OF RECORD.--October 1963 to September 1968, October 1970 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 218.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several small diversions for irrigation and municipal use upstream from station.

AVERAGE DISCHARGE.--14 years, 208 ft³/s, 58.97 in/yr, 150,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,900 ft³/s Dec. 22, 1964, gage height, 11.15 ft; minimum, 2.0 ft³/s Aug. 20, 21, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	5.8	3.9	3.1	--	--	--
3	12	6.1	4.1	3.3	--	--	--
7	12	6.6	4.4	3.6	--	--	--
14	12	7.6	5.0	4.0	--	--	--
30	12	9.3	6.0	4.7	--	--	--
60	12	12	7.4	5.8	--	--	--
90	12	15	9.5	7.4	--	--	--
120	12	20	14	11	--	--	--
183	12	39	28	24	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	1960	2830	3360	--	--	--
3	14	1560	2210	2640	--	--	--
7	14	1210	1610	1850	--	--	--
15	14	937	1180	1310	--	--	--
30	14	739	906	990	--	--	--
60	14	562	731	834	--	--	--
90	14	488	637	732	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1979

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1900	2730	4000	4920	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.160

WILLAMETTE RIVER BASIN

14201000 PUDDING RIVER NEAR MOUNT ANGEL, OR

LOCATION.--Lat 45°03'47", Long 122°49'45", in SE 1/4 sec. 8, T.6 S., R.1 W., on left bank on downstream side of Cline Bridge, 1.5 miles west of Mount Angel, 3.5 miles upstream from Little Pudding River, and at mile 40.4.

PERIOD OF RECORD.--October 1939 to March 1966. Monthly discharge only January to September 1945, published in WSP 1318.

DRAINAGE AREA.--204 mi².

GAGE.--Water-stage recorder. Datum of gage is 119.76 ft above National Geodetic Vertical Datum of 1929. Prior to Sept 22, 1945, staff or wire-weight gages at same site and datum.

REMARKS.--No regulation. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--26 years, 711 ft³/s (514,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s Dec. 22, 1964 (gage height, 31.50 ft); minimum discharge, 2.4 ft³/s Aug. 9, 1965.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1966

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	15	9.2	7.1	5.7	4.4	3.7
3	26	15	9.7	7.6	6.1	4.8	4.1
7	26	16	11	8.7	7.3	6.0	5.3
14	26	17	12	9.7	8.2	6.9	6.1
30	26	20	14	12	10	8.5	7.7
60	26	29	20	17	15	12	11
90	26	36	25	21	18	15	13
120	26	56	38	30	25	20	18
183	26	152	108	89	76	63	56

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	5580	7950	9400	11100	12300	13400
3	26	4860	6640	7650	8760	9480	10100
7	26	3920	5210	5890	6580	7010	7370
15	26	3060	3860	4220	4530	4700	4830
30	26	2390	2970	3240	3490	3630	3740
60	26	1890	2380	2650	2930	3120	3280
90	26	1690	2110	2330	2570	2720	2850

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1965

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
3930	6150	9560	12000	15300	17800	20400	

Systematic n = 25 historical n = 0
Weighted skew = -0.059

WILLAMETTE RIVER BASIN

14201500 BUTTE CREEK AT MONITOR, OR

LOCATION.--Lat 45°06'06", long 122°44'42", in SE 1/4 SE 1/4 sec.25, T.5 S., R.1 W., Marion County, Hydrologic Unit 17090009, on left bank at downstream side of highway bridge at Monitor and at mile 7.7.

DRAINAGE AREA.--58.7 mi².

PERIOD OF RECORD.--January to December 1936, October 1940 to September 1952, October 1966 to September 1985. Monthly discharge only for January to December 1936, published is WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 155 ft, from topographic map. Jan. 20 to Oct. 22, 1936, nonrecording gage at present site at different datum. Oct. 23 to Dec. 19, 1936, nonrecording gage at site 70 ft downstream at different datum. Oct. 1, 1940, to Sept. 30, 1952, nonrecording gage at present site at 151.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Diversions for irrigation by pumping upstream from station.

AVERAGE DISCHARGE.--31 years (water years 1941-52, 1967-85), 221 ft³/s, 51.13 in/yr, 160,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,310 ft³/s Jan. 21, 1972, gage height, 15.26 ft, from floodmark; minimum discharge, 0.04 ft³/s July 23, 24, Aug. 26, 1982.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	4.1	1.9	1.2	0.8	0.5	0.4
3	29	4.8	2.5	1.7	1.2	0.7	0.5
7	29	5.7	3.1	2.2	1.5	1.0	0.7
14	29	6.5	3.8	2.8	2.0	1.4	1.1
30	29	8.1	4.9	3.6	2.7	1.9	1.5
60	29	11	6.4	4.6	3.5	2.5	1.9
90	29	15	9.0	6.7	5.2	3.8	3.1
120	29	22	14	10	8.3	6.4	5.3
183	29	52	37	31	26	22	19

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	2360	3240	3750	4300	4660	4990
3	31	1780	2490	2920	3400	3730	4040
7	31	1360	1830	2070	2320	2470	2600
15	31	957	1240	1380	1520	1600	1660
30	31	750	924	995	1050	1080	1100
60	31	581	719	782	840	873	898
90	31	518	646	708	767	802	830

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1940	3030	4580	5630	6950	7930	8900	

Systematic n = 31 historical n = 0
Weighted skew = -0.239

WILLAMETTE RIVER BASIN

14202000 PUDDING RIVER AT AURORA, OR

LOCATION.--Lat $45^{\circ}14'00''$, long $122^{\circ}44'56''$, in SE 1/4 sec.12, T.4 S., R.1 W., on upstream side of bridge on U.S. Highway 99E at Aurora, 0.9 mile upstream from Mill Creek and at mile 8.11.

DRAINAGE AREA.--479 mi².

PERIOD OF RECORD.--October 1928 to September 1964.

GAGE.--Wire-weight gage read once daily. Datum of gage is 72.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 2, 1934, and June 1 to Sept. 30, 1961, staff or wire-weight gage at same site and datum 5.00 ft higher. All gage heights given herein are at present datum.

REMARKS.--Slight regulation at high stages by pumping plant at mouth of Little Pudding River and at times, in summer, by mills on tributaries. Small diversions upstream from station.

COOPERATION.--Gage-height record collected in cooperation with U.S. Weather Bureau.

AVERAGE DISCHARGE.--36 years, 1,151 ft³/s (881,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--1928-64: Maximum discharge, 25,400 ft³/s Dec. 30, 1937 (gage height, 29.5 ft, from graph based on gage readings), from rating curve extended above 16,000 ft³/s; minimum, 26 ft³/s Aug. 13, 14, 1961.

Maximum stage known, 30.0 ft Jan. 7, 1923 (discharge, 27,900 ft³/s from rating curve extended above 16,000 ft³/s).Flood of Dec. 23, 1964, reached a stage of 29.57 ft (discharge, 26,200 ft³/s).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1964

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	35	49	38	33	29	25	23
3	35	50	38	33	29	25	23
7	35	51	40	35	31	28	25
14	35	54	42	37	34	30	28
30	35	58	46	41	37	33	31
60	35	70	57	51	47	44	41
90	35	81	65	58	54	50	47
120	35	110	83	72	64	57	52
183	35	249	179	150	129	109	98

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1964

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	36	7710	11400	14300	18300	21700	25500
3	36	7270	10200	12200	14800	16800	18800
7	36	6480	8500	9640	10900	11700	12500
15	36	5340	6660	7280	7870	8190	8450
30	36	4180	5260	5820	6390	6740	7050
60	36	3200	4110	4650	5270	5700	6100
90	36	2870	3660	4110	4630	4980	5300

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1923-1965

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5590	8470	13400	17500	23400	28500	34300	

Systematic n = 37 historical n = 43
Weighted skew = 0.382

WILLAMETTE RIVER BASIN

14202500 TUALATIN RIVER NEAR GASTON, OR

LOCATION.--Lat 45°26'11", long 123°10'07", in SE 1/4 SW 1/4 sec.34, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, on right bank 1.5 mi west of Gaston, and at mile 63.9.

DRAINAGE AREA.--48.5 mi².

PERIOD OF RECORD.--October 1940 to September 1956, October 1972 to September 1976, October 1978 to September 1984. October 1976 to September 1978 in reports of Oregon Water Resources Department. Prior to October 1973 published as "at Gaston."

GAGE.--Water-stage recorder. Elevation of gage is 170 ft, by barometer. Prior to May 20, 1942, water-stage recorder at site 1.5 mi downstream at datum 164.18 ft above National Geodetic Vertical Datum of 1929. May 20, 1942, to Sept. 30, 1956, nonrecording gage at present site at different datum.

REMARKS.--Slight diurnal fluctuation caused by logponds upstream. Small diversions for irrigation upstream from station. In 1949 city of Hillsboro began diverting about 5 ft³/s for municipal supply. Some water is diverted from Roaring Creek upstream for Forest Grove municipal supply.

AVERAGE DISCHARGE.--26 years (water years 1941-56, 1973-76, 1979-84), 198 ft³/s, 55.44 in/yr, 143,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s Dec. 21, 1955, gage height, 13.18 ft, site and datum then in use; minimum discharge, 0.20 ft³/s Sept. 22, 23, 1951, Aug. 14, 15, Sept. 25, Oct. 8, 1952.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1952-1984

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	5.3	1.3	0.5	--	--	--
3	13	5.6	1.4	0.6	--	--	--
7	13	6.4	2.0	1.0	--	--	--
14	13	7.8	3.1	1.6	--	--	--
30	13	10	4.5	2.5	--	--	--
60	13	13	6.5	4.0	--	--	--
90	13	16	8.2	5.2	--	--	--
120	13	20	12	7.6	--	--	--
183	13	36	24	17	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1951-1984

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	2000	2590	2930	3310	--	--
3	16	1570	2020	2290	2610	--	--
7	16	1210	1480	1620	1750	--	--
15	16	887	1090	1210	1330	--	--
30	16	677	844	951	1080	--	--
60	16	540	700	804	935	--	--
90	16	492	642	734	842	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14202980 SCOGGINS CREEK BELOW HENRY HAGG LAKE, NEAR GASTON, OR

LOCATION.--Lat $45^{\circ}28'10''$, long $123^{\circ}11'56''$, in SE 1/4 NE 1/4 sec.20, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, on left bank 600 ft downstream from Scoggins Dam, 800 ft upstream from small left bank tributary, 3.7 mi northwest of Gaston, and at mile 4.8.

DRAINAGE AREA.--38.8 mi².

PERIOD OF RECORD.--January 1975 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 187.48 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow completely regulated by Henry Hagg Lake since January 1975. Discharge not adjusted for storage or release from Henry Hagg Lake as evaporation from reservoir at times exceeds natural flow.

AVERAGE DISCHARGE.--12 years, 107 ft³/s, 77,520 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,250 ft³/s Dec. 16, 1977, gage height, 13.50 ft; minimum discharge, 1.4 ft³/s Nov. 16, 1978.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	13	8.1	6.4	--	--	--
3	11	14	8.2	6.4	--	--	--
7	11	14	8.5	6.7	--	--	--
14	11	16	9.4	7.4	--	--	--
30	11	18	11	8.7	--	--	--
60	11	30	17	12	--	--	--
90	11	35	20	15	--	--	--
120	11	50	29	20	--	--	--
183	11	76	55	44	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	603	865	1030	--	--	--
3	12	578	805	934	--	--	--
7	12	521	661	710	--	--	--
15	12	388	488	529	--	--	--
30	12	273	367	420	--	--	--
60	12	203	282	329	--	--	--
90	12	177	245	288	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

WILLAMETTE RIVER BASIN

14203000 SCOGGINS CREEK NEAR GASTON, OR.

LOCATION.--Lat 45°27'32", long 123°09'16", on line between secs. 26 and 27, T.1 S., R.4 W., Washington County, on left bank 100 ft upstream from bridge on State Highway 47, 1.7 mi northwest of Gaston, and at mile 1.71.

DRAINAGE AREA.--43.3 mi².

PERIOD OF RECORD.--October 1940 to September 1974. Prior to October 1973, published as Scoggins Creek near Gaston.

GAGE.--Water-stage recorder. Datum of gage is 168.92 ft above mean sea level. Prior to Oct. 1, 1947, water-stage recorder at site 300 ft upstream at same datum. Oct. 1, 1947, to June 7, 1950, nonrecording gage at site 150 ft upstream at same datum.

REMARKS.--Some diurnal fluctuation caused by logponds upstream from station. Diversions by pumping for irrigation upstream from station. Part of domestic water supply for Hillsboro is diverted from Sain Creek upstream from station.

AVERAGE DISCHARGE.--34 years, 143 ft³/s, 44.85 in/yr, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,320 ft³/s Dec. 21, 1955, gage height, 15.94 ft; minimum, 0.10 ft³/s Aug. 28, Sept. 30, Oct. 1, 3, 1958, Aug. 23, 24, 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	0.6	0.3	0.2	0.1	0.1	0.1
3	16	1.0	0.5	0.4	0.3	0.2	0.2
7	16	1.9	1.1	0.7	0.6	0.4	0.3
14	16	2.7	1.5	1.1	0.8	0.5	0.4
30	16	3.4	2.0	1.5	1.1	0.8	0.6
60	16	4.1	2.7	2.2	1.8	1.5	1.3
90	16	5.6	3.8	3.1	2.6	2.1	1.8
120	16	7.9	5.5	4.5	3.9	3.2	2.9
183	16	18	13	11	9.8	8.3	7.5

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	1460	1940	2290	2770	3150	3570
3	34	1140	1490	1740	2100	2390	2700
7	34	904	1130	1250	1400	1490	1580
15	34	721	875	939	994	1020	1040
30	34	539	654	706	753	778	797
60	34	425	530	583	636	668	695
90	34	375	464	508	551	577	598

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1974

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1290	1770	2580	3220	4170	4980	5900	

Systematic n = 34 historical n = 0
Weighted skew = 0.641

WILLAMETTE RIVER BASIN

14203500 TUALATIN RIVER NEAR DILLEY, OR

LOCATION.--Lat 45°28'30", long 123°07'23", in NE 1/4 NW 1/4 sec.24, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, on left bank 5 ft upstream from highway bridge, 1.0 mi south of Dilley, 1.2 mi downstream from Scoggins Creek, and at mile 58.81.

DRAINAGE AREA.--125 mi².

PERIOD OF RECORD.--October 1939 to 1987. Prior to October 1940 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1935: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 147.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 16, 1950, nonrecording gage at several sites within 200 ft of present site at datum 4.00 ft higher. June 16, 1950, to Aug. 10, 1966, water-stage recorder at present site at datum 4.00 ft higher.

REMARKS.--Diurnal fluctuation caused by operation of millpond on Scoggins Creek upstream from station and regulation by Henry Hagg Lake since January 1975. Diversions upstream from station of approximately 3,000 acre-ft from J. W. Barney Reservoir on the Middle Fork of North Fork Trask River for municipal water supply and irrigation in Wapato Lake area.

AVERAGE DISCHARGE.--48 years, 397 ft³/s, 287,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft³/s Dec. 22, 1964, gage height, 19.34 ft, from rating curve extended above 6,000 ft³/s; minimum discharge, 0.08 ft³/s Sept. 3, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1950-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	2.2	0.7	0.3	0.2	0.1	0.0
3	25	3.3	1.1	0.6	0.3	0.2	0.1
7	25	4.5	1.9	1.2	0.7	0.4	0.3
14	25	5.8	2.6	1.6	1.0	0.6	0.4
30	25	7.8	3.4	2.1	1.3	0.7	0.5
60	25	11	5.5	3.5	2.4	1.5	1.0
90	25	14	8.0	5.7	4.2	2.9	2.2
120	25	20	13	10	8.0	6.2	5.1
183	25	52	35	28	23	18	15

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	4270	6050	7460	9500	11200	13200
3	34	3340	4700	5830	7540	9060	10800
7	34	2600	3580	4270	5200	5930	6700
15	34	2090	2720	3040	3380	3580	3760
30	34	1570	2010	2240	2480	2630	2760
60	34	1230	1580	1790	2020	2170	2310
90	34	1080	1390	1570	1770	1900	2030

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1974

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3530	5000	7540	9600	12700	15400	18400	

Systematic n = 35 historical n = 0
Weighted skew = 0.599

WILLAMETTE RIVER BASIN
14203500 TUALATIN RIVER NEAR DILLEY, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	41	29	24	--	--	--
3	11	45	30	25	--	--	--
7	11	48	32	26	--	--	--
14	11	61	40	31	--	--	--
30	11	74	50	39	--	--	--
60	11	94	66	52	--	--	--
90	11	108	76	59	--	--	--
120	11	118	85	67	--	--	--
183	11	131	106	94	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	2870	4180	4860	--	--	--
3	12	2490	3380	3770	--	--	--
7	12	1920	2510	2740	--	--	--
15	12	1510	1820	1910	--	--	--
30	12	1170	1420	1490	--	--	--
60	12	940	1180	1250	--	--	--
90	12	801	1050	1140	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14204000 GALES CREEK NEAR GALES CREEK, OR

LOCATION.--Lat 45°38'30", long 123°15'55", in NW 1/4 SE 1/4 sec.23, T.2 N., R.5 W., Washington County, Hydrologic Unit 17090010, on right bank 0.5 mi downstream from Beaver Creek, 4.6 mi northwest of town of Gales Creek, and at mile 17.5.

DRAINAGE AREA.--33.2 mi².

PERIOD OF RECORD.--October 1935 to September 1945, October 1963 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 449.31 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 3, 1964, nonrecording gage at same site and datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--17 years, 115 ft³/s, 47.04 in/yr, 83,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft³/s Dec. 22, 1964, gage height, 8.63 ft; minimum, 1.7 ft³/s Sept. 28, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1937-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	4.6	3.1	2.5	2.1	--	--
3	15	5.6	3.9	3.1	2.6	--	--
7	15	6.2	4.4	3.5	2.9	--	--
14	15	6.6	4.8	3.9	3.2	--	--
30	15	7.1	5.2	4.3	3.6	--	--
60	15	8.0	5.9	5.1	4.4	--	--
90	15	8.9	6.9	6.0	5.4	--	--
120	15	10	8.2	7.3	6.8	--	--
183	15	18	14	12	10	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1936-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17	1580	2190	2560	2970	--	--
3	17	1210	1650	1920	2240	--	--
7	17	869	1140	1270	1410	--	--
15	17	650	820	890	947	--	--
30	17	467	569	613	653	--	--
60	17	373	437	460	477	--	--
90	17	325	379	397	411	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1936-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1410	1980	2810	3400	4170	--	--	

Systematic n = 17 historical n = 0
Generalized 17b skew = 0.144

WILLAMETTE RIVER BASIN

14204500 GALES CREEK NEAR FOREST GROVE, OR

LOCATION.--Lat $45^{\circ}33'20''$, long $123^{\circ}11'10''$, in SE 1/4 sec.21, T.1 N., R.4 W., Washington County, Hydrologic Unit 17090010, on left bank 50 ft downstream from Roderick road bridge, 0.1 mi below Kelly Creek, 2.5 mi southeast of town of Gales Creek, 4.5 mi northwest of Forest Grove, and at mile 8.7.

DRAINAGE AREA.--66.1 mi².

PERIOD OF RECORD.--October 1940 to September 1956, October 1970 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 201.81 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1941, at site 1.4 mi downstream at datum 14.33 ft lower. Sept. 13, 1941, to June 19, 1952, at downstream side of bridge at datum 1.44 ft higher. June 20, 1952, to Jan. 3, 1956, at datum 1.00 ft higher.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--27 years, 225 ft³/s, 46.23 in/yr, 163,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,410 ft³/s Feb. 17, 1949, gage height, 10.90 ft, from floodmark, site and datum then in use; maximum gage height, 12.95 ft, from floodmark, Jan. 21, 1972; minimum discharge, 1 ft³/s Aug. 19, 1947.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	7.7	4.8	3.6	2.8	2.1	1.7
3	25	8.2	5.3	4.1	3.3	2.5	2.1
7	25	8.8	5.8	4.5	3.7	2.8	2.4
14	25	9.5	6.5	5.2	4.2	3.4	2.9
30	25	11	7.4	6.0	5.1	4.1	3.6
60	25	13	9.1	7.5	6.3	5.2	4.5
90	25	14	11	9.2	8.0	6.9	6.2
120	25	18	13	11	9.9	8.3	7.4
183	25	33	24	20	18	15	13

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	2500	3470	4040	4710	5170	5590
3	27	1970	2720	3160	3670	4030	4360
7	27	1510	1990	2240	2480	2620	2740
15	27	1150	1460	1590	1700	1760	1800
30	27	846	1080	1180	1280	1330	1370
60	27	674	872	963	1050	1090	1120
90	27	605	775	843	896	922	939

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2110	3170	4680	5700	6990	7950	8910	

Systematic n = 27 historical n = 0
Weighted skew = -0.165

WILLAMETTE RIVER BASIN

14205500 EAST FORK DAIRY CREEK AT MOUNTAINDALE, OR

LOCATION.--Lat 45°38'05", long 123°02'35", in NE 1/4 NW 1/4 sec.27, T.2 N., R.3 W., Washington County, Hydrologic Unit 17090010, on left bank at dam site 0.7 mi northwest of village of Mountaintdale.

DRAINAGE AREA.--43.0 mi², including two small streams on left bank which enter creek below station.

PERIOD OF RECORD.--October 1940 to September 1951.

GAGE.--Water-stage recorder. Datum of gage is 183.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Diurnal fluctuation at low stages caused by logpond upstream. Probably some pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--11 years (water years 1941-51), 107 ft³/s, 77,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,420 ft³/s Feb.17, 1949, gage height, 12.54 ft; minimum, 7 ft³/s Sept. 10-12, 1944.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	10	9.1	8.2	--	--	--
3	10	10	9.1	8.3	--	--	--
7	10	11	9.2	8.5	--	--	--
14	10	11	9.7	9.1	--	--	--
30	10	11	10	10	--	--	--
60	10	12	11	11	--	--	--
90	10	14	12	12	--	--	--
120	10	16	14	13	--	--	--
183	10	24	20	18	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	1070	1260	1310	--	--	--
3	11	865	1070	1150	--	--	--
7	11	679	840	896	--	--	--
15	11	507	672	748	--	--	--
30	11	362	501	585	--	--	--
60	11	303	395	443	--	--	--
90	11	270	349	389	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
967	1120	1310	1420	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.165

WILLAMETTE RIVER BASIN

14206000 MCKAY CREEK NEAR NORTH PLAINS, OR

LOCATION.--Lat 45°37'32", long 122°58'32", in SE 1/4 sec.30, T.2 N., R.2 W., Washington County, Hydrologic Unit 17090010, on downstream end of left timber bent of bridge on Shadybrook Road, 2.0 mi upstream from Jackson Creek, and 2.3 mi northeast of North Plains.

DRAINAGE AREA.--27.6 mi².

PERIOD OF RECORD.--October 1940 to September 1943, October 1948 to September 1956.

GAGE.--Water-stage recorder. Datum of gage is 172.57 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1940, to Sept. 30, 1943, at datum 0.25 ft higher.

REMARKS.--Some diurnal fluctuation in summer caused by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--11 years (water years 1941-43, 1949-56), 70.7 ft³/s, 51,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s Feb. 17, 1949, gage height, 11.23 ft; maximum gage height, 11.35 ft Dec. 21, 1955; minimum discharge, 0.4 ft³/s Aug. 17, 18, 22, 1951.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1956

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	796	1040	1220	--	--	--
3	11	700	826	886	--	--	--
7	11	531	645	697	--	--	--
15	11	387	496	550	--	--	--
30	11	286	365	409	--	--	--
60	11	217	274	307	--	--	--
90	11	202	247	268	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1956

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
739	954	1250	1440	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.164

WILLAMETTE RIVER BASIN

14206500 TUALATIN RIVER AT FARMINGTON, OR

LOCATION.--Lat $45^{\circ}26'50''$, long $122^{\circ}56'58''$, in SE 1/4 SE 1/4 sec.29, T.1 S., R.2 W., Washington County, Hydrologic Unit 17090010, on left bank at Harris bridge at Farmington, 5.0 mi south of Hillsboro, and at mile 33.3.

DRAINAGE AREA.--568 mi².

PERIOD OF RECORD.--October 1939 to September 1958. October 1972 to September 1976 (October, May to September only, each year).

GAGE.--Water-stage recorder. Datum of gage is 100.42 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at same site at datum 2.00 ft higher. Oct. 1, 1940, to Sept. 30, 1958, nonrecording gage at present site and datum.

REMARKS.--Flow regulated by Henry Hagg Lake since January 1975.

AVERAGE DISCHARGE.--19 years (water years 1940-58), 1,355 ft³/s, 981,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period October 1939 to September 1958, 24,200 ft³/s Dec. 22, 1955, gage height, 36.03 ft, from floodmark; no flow Aug. 4-7, Aug. 10 to Sept. 6, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	32	18	12	8.0	--	--
3	16	34	19	13	8.6	--	--
7	16	37	21	14	9.5	--	--
14	16	40	24	17	12	--	--
30	16	45	27	20	14	--	--
60	16	57	38	29	22	--	--
90	16	68	46	35	27	--	--
120	16	91	65	50	39	--	--
183	16	176	126	102	83	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	10300	14100	16000	18000	--	--
3	19	9610	12600	14000	15300	--	--
7	19	8280	10500	11500	12300	--	--
15	19	6800	8550	9280	9890	--	--
30	19	5260	6830	7640	8460	--	--
60	19	4160	5440	6150	6930	--	--
90	19	3730	4860	5450	6050	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1958

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6980	10100	15000	18500	23400	--	--	

Systematic n = 19 historical n = 0
Generalized 17b skew = 0.169

WILLAMETTE RIVER BASIN

14207500 TUALATIN RIVER AT WEST LINN, OR
(National stream quality accounting network station)

LOCATION.--Lat 45°21'03", long 122°40'30", in SW 1/4 sec.34, T.2 S., R.1 E., Clackamas County, Hydrologic Unit 17090010, on left bank 300 ft upstream from bridge on State Highway 212, 0.4 mi west of West Linn city limits, and at mile 1.8.

DRAINAGE AREA.--706 mi².

PERIOD OF RECORD.--July 1928 to 1987. Prior to October 1960, published as "near Willamette."

REVISED RECORDS.--WSP 1014: 1943. WSP 1184: 1947. WSP 1248: 1941. WSP 1935: Drainage area. WDR OR-75-1: 1974(M). WDR OR-77-1: 1971-73, 1975, 1976(M).

GAGE.--Water-stage recorder. Datum of gage is 85.61 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 12, 1941, nonrecording gage at datum 1.02 ft higher.

REMARKS.--October 1951 to September 1970, all records published for this station included the daily flow in Oswego Canal. Oswego Canal diverts at point 5.0 mi upstream from station for development of power between outlet of Lake Oswego and Willamette River. Some regulation in low-water season by flashboards on crest of diversion dam for Oswego Canal and regulation by Henry Hagg Lake since January 1975. Several diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--59 years, 1,531 ft³/s, 29.45 in/yr, 1,109,000 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft³/s Dec. 23, 1933, gage height, 17.72 ft; minimum daily discharge, 0.20 ft³/s July 30 to Aug. 2, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	8.9	5.3	4.1	3.3	2.6	--
3	22	9.1	5.6	4.4	3.7	3.0	--
7	22	10	6.5	5.2	4.4	3.7	--
14	22	12	7.6	6.2	5.4	4.6	--
30	22	15	9.5	7.9	6.9	6.0	--
60	22	22	15	13	11	10	--
90	22	29	21	18	16	15	--
120	22	45	32	28	25	22	--
183	22	137	94	76	62	50	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1951

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	9100	13400	16400	20500	23600	--
3	23	6830	12800	15500	19100	21900	--
7	23	8160	11300	13300	15800	17700	--
15	23	6910	9100	10300	11600	12500	--
30	23	5410	6930	7720	8540	9040	--
60	23	4230	5440	6060	6690	7070	--
90	23	3780	4910	5480	6040	6360	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1951

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6340	9390	14400	18200	23700	28300	--	

Systematic n = 23 historical n = 0
Weighted skew = 0.296

WILLAMETTE RIVER BASIN

14207500 TUALATIN RIVER AT WEST LINN, OR--Continued
(National stream quality accounting network station)

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1953-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	18	2.9	1.2	0.7	0.4	--	--	
3	18	3.1	1.3	0.7	0.5	--	--	
7	18	3.4	1.5	0.9	0.6	--	--	
14	18	3.9	1.9	1.3	0.9	--	--	
30	18	5.2	2.8	2.1	1.7	--	--	
60	18	8.6	4.7	3.6	3.0	--	--	
90	18	15	7.3	5.1	3.9	--	--	
120	18	31	16	11	8.7	--	--	
183	18	134	83	64	51	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1952-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	19	10100	13400	15600	18100	--	--	
3	19	9810	13000	14900	17200	--	--	
7	19	9060	11500	12900	14400	--	--	
15	19	7790	9700	10600	11600	--	--	
30	19	6380	7890	8630	9370	--	--	
60	19	4940	6320	7080	7920	--	--	
90	19	4300	5350	5930	6550	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14208000 CLACKAMAS RIVER AT BIG BOTTOM, OR

LOCATION.--Lat 45°01'00", long 121°55'10", in NW 1/4 SE 1/4 sec.26, T.6 S., R.7 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank at lower end of Big Bottom, 0.5 mi downstream from Pot Creek, 28 mi southeast of Estacada, and at mile 65.1.

DRAINAGE AREA.--136 mi².

PERIOD OF RECORD.--April 1920 to September 1970. Monthly discharge only April 1920 published in WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 2,040 ft, from topographic map. Prior to Dec. 27, 1962, at site 0.2 mi upstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--50 years, 477 ft³/s, 47.63 in/yr, 345,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s Dec. 22, 1964, gage height, 10.55 ft, from rating curve extended above 1,200 ft³/s on basis of slope-area measurement of peak flow; minimum, 184 ft³/s Sept. 12, 1942.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1922-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	49	239	216	204	195	185	178
3	49	240	217	205	196	186	179
7	49	242	218	206	197	187	180
14	49	244	220	208	198	187	180
30	49	248	223	211	201	190	182
60	49	252	226	214	203	192	185
90	49	256	229	216	205	194	187
120	49	263	233	220	210	199	192
183	49	306	260	242	229	217	210

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1921-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	50	2430	3690	4590	5780	6710	7670
3	50	1950	2920	3630	4590	5350	6160
7	50	1550	2180	2610	3150	3550	3960
15	50	1250	1640	1870	2130	2310	2480
30	50	1040	1270	1390	1510	1590	1650
60	50	854	1020	1100	1190	1240	1290
90	50	759	895	962	1030	1070	1100

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1921-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1910	3010	4750	6030	7780	9180	10600	

Systematic n = 50 historical n = 0
Weighted skew = 0.004

WILLAMETTE RIVER BASIN

14208500 OAK GROVE FORK AT TIMOTHY MEADOWS, OR

LOCATION.--Lat 45°07'00", long 121°48'00", in SW 1/4 sec.23, T.5 S., R.8 E., Clackamas County, Hydrologic Unit 17090011, 0.8 mi upstream from Anvil Creek, 10 mi upstream from Oak Grove intake dam, and 26.5 mi southeast of Cazadero.

DRAINAGE AREA.--54 mi², approximately.

PERIOD OF RECORD.--March 1913 to September 1929. Published as "Oak Grove Fork of Clackamas River at Timothy Meadows, near Cazadero", prior to 1922.

GAGE.--Water-stage recorder. Datum of gage is 3,140 ft above National Geodetic Vertical Datum of 1929 (from levels to approximate gage datum).

REMARKS.--No diversion upstream from station. No regulation except natural storage in Clackamas Lake and in meadows upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1914-29), 188 ft³/s, 136,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 970 ft³/s Jan. 7, 1923, gage height, 3.20 ft, from rating curve extended above 460 ft³/s; minimum, 90 ft³/s Oct. 18-26, 28-31, Nov. 1-5, 1926.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1914-1928

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	123	108	100	--	--	--
3	13	124	109	101	--	--	--
7	13	125	110	101	--	--	--
14	13	127	111	102	--	--	--
30	13	130	113	104	--	--	--
60	13	135	117	108	--	--	--
90	13	138	121	111	--	--	--
120	13	141	123	113	--	--	--
183	13	152	130	119	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1914-1928

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	483	684	819	990	--	--
3	14	451	630	749	899	--	--
7	14	412	545	625	718	--	--
15	14	368	471	533	605	--	--
30	14	332	416	466	524	--	--
60	14	302	369	406	449	--	--
90	14	277	332	363	399	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1914-1928

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
353	511	740	899	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.007

WILLAMETTE RIVER BASIN

14208700 OAK GROVE FORK NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°06'50", long 121°48'50", in NE 1/4 sec.27, T.5 S., R.8 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.1 mi upstream from Anvil Creek, 0.3 mi downstream from Timothy Lake, 14 mi south of Government Camp, and at mile 15.5.

DRAINAGE AREA.--54.4 mi².

PERIOD OF RECORD.--July 1956 to 1987.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 3,041.83 ft above National Geodetic Vertical Datum of 1929 (Portland General Electric Co. bench mark).

REMARKS.--Flow regulated since 1956 by Timothy Lake (station 14208600). No diversion upstream from station.

AVERAGE DISCHARGE.--31 years, 131 ft³/s, 32.70 in/yr, 94,910 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s Dec. 24, 1964, gage height, 3.93 ft, from rating curve extended above 290 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 3.7 ft³/s Sept. 23, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1987

[Short-duration statistics uncertain due to excessive skew]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	30	40	33	29	26	22	20
14	30	40	34	32	31	29	29
30	30	44	35	32	30	28	27
60	30	51	38	33	30	27	25
90	30	58	41	35	30	26	24
120	30	66	44	36	30	25	22
183	30	83	56	45	38	30	26

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	357	490	615	824	1030	1280
3	31	350	458	546	676	790	917
7	31	335	418	477	556	618	684
15	31	311	371	411	463	503	543
30	31	276	331	367	413	447	482
60	31	232	281	311	348	375	401
90	31	203	248	277	316	345	376

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14209000 OAK GROVE FORK ABOVE POWERPLANT INTAKE, OR

LOCATION.--Lat 45°04'20", long 121°57'00", on line between secs.3 and 4, T.6 S., R.7 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.2 mi upstream from Spring Creek, 0.7 mi upstream from Kink Creek, 1.0 mi upstream from Portland General Electric Co. diversion dam, 24 mi southeast of Estacada, and at mile 6.1.

DRAINAGE AREA.--126 mi².

PERIOD OF RECORD.--May 1909 to 1987. Monthly discharge only for some periods, published in WSP 1318. Published as both Oak Grove Fork of Clackamas River at proposed intake, near Cazadero, and Oak Grove Fork of Clackamas River at intake, near Cazadero, May 1909 to September 1910, as Oak Grove Fork of Clackamas River at intake, near Cazadero, October 1910 to September 1921, and as Oak Grove Fork at Portland General Electric Power Co. intake, October 1921 to September 1929.

REVISED RECORDS.--WSP 1248: 1909, 1910(M), 1916, 1918, 1923, 1932. WSP 1935: 1914, 1921.

GAGE.--Water-stage recorder. Datum of gage is 2,052.31 ft above National Geodetic Vertical Datum of 1929. May 21, 1909, to Nov. 17, 1911, nonrecording gage and Mar. 26, 1912, to Sept. 30, 1923, water-stage recorder, at various sites 0.7 mi downstream, below Kink Creek, at different datum.

REMARKS.--Flow regulated since 1956 by Timothy Lake (station 14208600). No diversion upstream from station.

AVERAGE DISCHARGE.--78 years, 500 ft³/s, 362,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s Jan. 7, 1923, gage height, 5.45 ft, site and datum then in use, from rating curve extended above 2,300 ft³/s on basis of peak discharge for other stations in Clackamas River basin; minimum discharge, 208 ft³/s Aug. 28-31, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1911-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	305	273	257	244	230	220
3	37	306	274	258	245	230	221
7	37	308	276	260	246	232	222
14	37	310	278	261	248	233	224
30	37	315	282	266	252	238	228
60	37	321	287	271	257	243	234
90	37	327	292	274	260	245	236
120	37	334	296	278	264	249	240
183	37	360	314	294	280	265	256

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1910-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	40	1480	2150	2660	3380	3960	4600
3	40	1320	1890	2300	2880	3360	3860
7	40	1160	1550	1820	2150	2400	2660
15	40	1030	1280	1420	1570	1670	1760
30	40	933	1100	1180	1250	1290	1320
60	40	821	950	1000	1050	1070	1090
90	40	736	848	898	943	968	988

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1910-1955

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1160	1640	2410	2970	3760	4400	5090

Systematic n = 42 historical n = 0
Weighted skew = 0.297

WILLAMETTE RIVER BASIN

14209000 OAK GROVE FORK ABOVE POWERPLANT INTAKE, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	256	235	226	219	212	208
3	30	260	238	228	221	213	209
7	30	264	240	230	223	215	211
14	30	267	242	231	224	218	214
30	30	278	250	238	230	223	218
60	30	290	259	246	237	227	222
90	30	305	270	255	244	234	227
120	30	320	282	266	254	242	235
183	30	364	323	304	290	275	266

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	1330	1930	2370	2960	3440	3940
3	31	1150	1670	2060	2620	3080	3580
7	31	975	1360	1650	2060	2400	2770
15	31	842	1100	1280	1530	1720	1930
30	31	741	929	1060	1250	1390	1550
60	31	668	814	919	1060	1170	1290
90	31	627	751	839	957	1050	1150

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14209500 CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OR

LOCATION.--Lat 45°07'30", long 122°04'20", in NE1/4 sec.21, T.5 S., R.6 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.1 mi upstream from Three Lynx Creek, 0.25 mi downstream from powerplant, 17 mi southeast of Estacada, and at mile 47.8.

DRAINAGE AREA.--479 mi².

PERIOD OF RECORD.--April 1909 to December 1913, October 1921 to 1987. Prior to October 1911 (monthly discharge only), published in WSP 1318.

REVISED RECORDS.--WSP 1148: Drainage area. WSP 1248: 1910(M), 1912, 1948-50(M).

GAGE.--Water-stage recorder. Datum of gage is 1,091.69 ft above National Geodetic Vertical Datum of 1929 (levels by Portland General Electric Co.). Apr. 23, 1909, to Jan. 4, 1914, nonrecording gage at about same site and datum. Nov. 1, 1921, to Dec. 27, 1924, water-stage recorder at present site at datum 0.91 ft higher.

REMARKS.--Minor regulation since May 1956 by Timothy Lake (station 14208600).

AVERAGE DISCHARGE.--70 years, 1,991 ft³/s, 56.45 in/yr, 1,442,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,200 ft³/s Dec. 22, 1964, gage height, 21.7 ft, from floodmark, from rating curve extended above 34,100 ft³/s on basis of slope-area measurement at gage height 15.06 ft; minimum recorded discharge, 275 ft³/s Sept. 23, 1987; minimum daily, 410 ft³/s Sept. 4, 1986.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1910-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	69	627	551	511	478	441	417
3	69	651	591	562	538	513	496
7	69	663	606	580	559	538	524
14	69	675	617	590	569	548	534
30	69	694	632	604	582	559	545
60	69	724	654	623	599	574	558
90	69	754	677	643	617	592	576
120	69	801	708	672	646	622	608
183	69	1060	881	812	764	718	692

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1910-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	70	14100	20500	24700	29700	33300	36700
3	70	10700	15700	19200	23800	27300	30800
7	70	7880	11100	13200	15800	17800	19700
15	70	5940	7910	9130	10600	11600	12700
30	70	4750	6010	6720	7520	8050	8540
60	70	3810	4690	5190	5740	6110	6450
90	70	3420	4140	4530	4950	5230	5480

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1910-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
11800	17500	26200	32400	40700	47200	53900	

Systematic n = 70 historical n = 0
Weighted skew = 0.035

WILLAMETTE RIVER BASIN

14210000 CLACKAMAS RIVER AT ESTACADA, OR

LOCATION.--Lat $45^{\circ}18'00''$, long $122^{\circ}21'10''$, in NE 1/4 sec.19, T.3 S., R.4 E., Clackamas County, Hydrologic Unit 17090011, on left bank 0.2 mi downstream from River Mill Dam, 1.5 mi northwest of Estacada, and at mile 23.1.

DRAINAGE AREA.--671 mi².

PERIOD OF RECORD.--April 1908 to 1987. Monthly discharge only April 1908, published in WSP 1318. Published as "near Cazadero" January 1909 to September 1957.

REVISED RECORDS.--WSP 1248: 1908-9, 1910(M), 1916, 1917(M), 1922(M), 1923. WSP 1288: Drainage area (former site). WSP 1638: 1919(M).

GAGE.--Water-stage recorder. Datum of gage is 296.93 ft above National Geodetic Vertical Datum of 1929 (levels by Portland General Electric Co.). See WSP 1738 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957, to Feb. 16, 1965, water-stage recorder at same site at datum 2.00 ft higher.

REMARKS.--Large diurnal fluctuations and some regulation caused by powerplants at River Mill Dam and, since 1958, North Fork Dam. Minor regulation since 1956 by Timothy Lake (station 14208600). Two small diversions upstream from station for Oregon City and Estacada municipal water supply.

AVERAGE DISCHARGE.--79 years, 2,753 ft³/s, 55.72 in/yr, 1,995,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,900 ft³/s Dec. 22, 1964, gage height, 18.36 ft; minimum discharge, 50 ft³/s Mar. 10, 1961, from rating curve extended below 260 ft³/s; minimum daily, 285 ft³/s Oct. 4, 5, 1958, caused by filling of North Fork dam forebay.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1910-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	48	773	686	642	607	568	543
3	48	785	701	659	625	588	564
7	48	794	707	664	630	592	568
14	48	809	719	674	637	598	572
30	48	834	738	691	653	613	586
60	48	873	766	715	675	632	605
90	48	922	798	741	697	651	623
120	48	999	841	775	726	679	650
183	48	1390	1100	977	891	807	757

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1909-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	49	19600	29200	35500	43300	48900	54300
3	49	14800	22000	26900	33200	38000	42900
7	49	11000	15400	18200	21500	24000	26300
15	49	8200	11100	13000	15300	17000	18600
30	49	6550	8480	9610	10900	11800	12600
60	49	5260	6550	7290	8130	8690	9200
90	49	4720	5770	6350	6980	7400	7780

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1957

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15700	24600	37700	46600	57900	66400	74900	

Systematic n = 49 historical n = 0
Weighted skew = -0.213

WILLAMETTE RIVER BASIN
14210000 CLACKAMAS RIVER AT ESTACADA, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT							
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%		
		1	28	593	425	348	290	233	200
		3	28	678	556	495	446	393	360
		7	28	742	656	616	585	553	532
		14	28	777	699	665	639	613	596
		30	28	820	739	703	675	646	628
		60	28	881	789	746	712	677	654
		90	28	941	844	796	757	715	687
		120	28	1030	913	861	821	779	753
		183	28	1450	1240	1140	1070	1000	959

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%		
		1	29	22800	33200	39100	45400	49500	53000
		3	29	17400	25600	30700	36700	41000	45000
		7	29	12700	17900	21000	24600	27000	29300
		15	29	9190	12000	13600	15400	16500	17600
		30	29	7050	8870	9900	11000	11800	12500
		60	29	5630	7010	7840	8800	9480	10100
		90	29	5070	6230	6920	7730	8290	8820

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14211000 CLACKAMAS RIVER NEAR CLACKAMAS, OR

LOCATION.--Lat 45°23'36", long 122°31'54", in NE 1/4 SW 1/4 sec.14, T.2 S., R.2 E., Clackamas County, Hydrologic Unit 17090011, on left bank 0.8 mi upstream from Johnson Creek, 2.1 mi southeast of Clackamas, and at mile 4.8.

DRAINAGE.--930 mi² at gage, 936 mi² at Gladstone Bridge 3.6 mi downstream, where high-flow discharge measurements were made.

PERIOD OF RECORD.--September 1911 to April 1912 published as "at Park Place" (daily discharge), October 1962 to September 1983.

GAGE.--Water-stage recorder. Datum of gage is 50.68 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 15, 1911, to Apr. 22, 1912, nonrecording gage at site 3.6 mi downstream at different datum. Oct. 1, 1962, to Sept. 10, 1969, water-stage recorder at site 300 ft downstream at present datum.

REMARKS.--Diurnal fluctuations and some regulation by powerplants and several storage dams upstream, operated by Portland General Electric Co. Small diversions upstream from station for Estacada municipal water supply. All records given herein are for gage site.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s Dec. 22, 1964, gage height, 27.0 ft, from floodmarks; minimum, 336 ft³/s Sept. 1, 11, 1969.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1964-1983

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	680	557	499	453	405	--
3	20	749	643	589	545	497	--
7	20	784	689	643	607	568	--
14	20	824	730	682	644	603	--
30	20	872	771	721	680	636	--
60	20	943	835	782	740	694	--
90	20	1010	895	837	792	743	--
120	20	1110	984	929	887	844	--
183	20	1600	1350	1240	1160	1080	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1963-1983

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	32400	45100	51300	57200	60600	--
3	21	25500	36800	43400	50700	55500	--
7	21	19300	26100	29400	32500	34200	--
15	21	13700	17200	18800	20100	20800	--
30	21	10300	12500	13400	14200	14500	--
60	21	7900	9910	11000	12200	12900	--
90	21	7050	8770	9710	10700	11400	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

WILLAMETTE RIVER BASIN

14211500 JOHNSON CREEK AT SYCAMORE, OR

LOCATION.--Lat $45^{\circ}28'40''$, long $122^{\circ}30'24''$, in lot 2, SW 1/4 sec.13, T.1 S., R.2 E., Multnomah County, Hydrologic Unit 17090012, on right bank 0.3 mi southwest of Sycamore station, 2.5 mi east of city limits of Portland, and at mile 10.2.

DRAINAGE AREA.--26.5 mi².

PERIOD OF RECORD.--July 1940 to 1987.

REVISED RECORDS.--WSP 1318: 1941(M). WDR OR-75-1: 1974. WDR OR-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 228.47 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Slight diurnal fluctuation at low flow caused by recreational ponds upstream. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--47 years, 54.4 ft³/s, 27.88 in/yr, 39,400 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft³/s Dec. 22, 1964, gage height, 14.68 ft; minimum discharge, 0.08 ft³/s Aug. 21, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	46	0.6	0.3	0.2	0.2	0.1	0.1
3	46	0.7	0.4	0.3	0.2	0.1	0.1
7	46	0.8	0.4	0.3	0.2	0.2	0.1
14	46	0.9	0.5	0.4	0.3	0.2	0.2
30	46	1.0	0.6	0.5	0.4	0.3	0.2
60	46	1.3	0.8	0.7	0.5	0.4	0.4
90	46	1.6	1.1	0.9	0.7	0.6	0.5
120	46	2.3	1.4	1.1	1.0	0.8	0.7
183	46	5.4	3.2	2.4	1.9	1.5	1.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	47	897	1290	1510	1750	1890	2020
3	47	624	846	961	1080	1140	1200
7	47	430	573	646	718	761	796
15	47	298	396	449	504	538	568
30	47	227	289	318	345	360	371
60	47	173	221	244	265	278	287
90	47	150	192	212	230	240	248

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
793	1220	1810	2180	2630	2940	3250	

Systematic n = 47 historical n = 0
Weighted skew = -0.371

WILLAMETTE RIVER BASIN

14211720 WILLAMETTE RIVER AT PORTLAND, OR
(National stream quality accounting network station)

LOCATION.--Lat 45°31'07", long 122°40'00", in NW 1/4 NE 1/4 sec.3, T.1 S., R.1 E., Multnomah County, Hydrologic Unit 17090012, in pier at east end of drawspan, on upstream side of Morrison Bridge, in Portland, and at mile 12.8.

DRAINAGE AREA.--11,100 mi², approximately.

PERIOD OF RECORD.--October 1972 to 1987. Gage-height records collected in this vicinity since 1879 are in reports of the National Weather Service.

GAGE.--Acoustic velocity meter (AVM) with water-stage and velocity-index recorder. Datum of gage is 1.55 ft above National Geodetic Vertical Datum of 1929 (levels by National Weather Service).

REMARKS.--Flow regulated by many reservoirs upstream. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--15 years, 33,310 ft³/s, 24,130,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 283,000 ft³/s Jan. 18, 1974; maximum gage height, 23.84 ft Jan. 18, 1974; minimum daily discharge, 4,200 ft³/s July 10, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of June 7, 1894, and June 1, 1948, reached stages of 33.0 ft and 30.0 ft, respectively, from information by National Weather Service.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	6760	5520	4910	4430	--	--
3	14	7000	5960	5480	5120	--	--
7	14	7290	6350	5910	5580	--	--
14	14	7420	6520	6100	5780	--	--
30	14	7730	6850	6460	6170	--	--
60	14	8280	7390	7020	6760	--	--
90	14	9310	8160	7620	7210	--	--
120	14	10800	9300	8520	7900	--	--
183	14	13900	11500	10500	9700	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1973-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	170100	215400	234900	251700	--	--
3	15	164100	208100	226700	242400	--	--
7	15	147300	181900	194700	204200	--	--
15	15	123300	145200	151200	154600	--	--
30	15	103600	119600	123100	124700	--	--
60	15	81900	101200	107900	112500	--	--
90	15	70400	91100	100600	109200	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

BEAR CREEK BASIN

14248700 BEAR CREEK NEAR SVENSEN, OR

LOCATION.--Lat $46^{\circ}06'48''$, long $123^{\circ}37'55''$, in NE 1/4 NE 1/4 sec.11, T.7 N., R.8 W., Clatsop County, Hydrologic Unit 17080006, on right bank 0.5 mi upstream from the Astoria Reservoir Dam, 3.8 mi southeast of Svensen, and at mile 5.4.

DRAINAGE AREA.--3.33 mi².

PERIOD OF RECORD.--August 1965 to September 1975.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft, from topographic map.

REMARKS.--Flow regulated by Wickiup Lake and Middle Lake. No diversions upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1966-75), 17.9 ft³/s, 73.00 in/yr, 12,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 342 ft³/s Jan. 11, 1972, gage height, 3.42 ft; minimum, 1.2 ft³/s Sept. 8, 9, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1975

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1975

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	107	152	187	--	--	--
3	10	86	116	137	--	--	--
7	10	70	91	105	--	--	--
15	10	59	76	87	--	--	--
30	10	48	60	67	--	--	--
60	10	41	51	57	--	--	--
90	10	37	46	51	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1966-1975

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
106	147	207	248	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = 0.149

YOUNGS RIVER BASIN

14251500 YOUNGS RIVER NEAR ASTORIA, OR

LOCATION.--Lat 46°04'02", long 123°47'20", in NW 1/4 sec.27, T.7 N., R.9 W., Clatsop County, Hydrologic Unit 17080006, on left bank 50 ft upstream from crest of Youngs River Falls, 2.7 mi southwest of Olney, and 9 mi south of Astoria. DRAINAGE AREA.--40.1 mi².

PERIOD OF RECORD.--August 1927 to September 1958.

GAGE.--Water-stage recorder. Datum of gage is 63.27 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 12, 1934, at site 1.2 mi upstream at different datum.

REMARKS.--No regulation. Youngs River-Lewis and Clark Water District has diverted water 4 mi upstream from station for domestic use downstream from station since 1941.

AVERAGE DISCHARGE.--31 years (water years 1928-58), 178 ft³/s, 128,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s Feb. 10, 1949, gage height, 13.66 ft, from rating curve extended above 2,300 ft³/s; minimum, 3.3 ft³/s Sept. 22, 1951.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	5.3	4.4	3.9	--	--	--
3	13	5.4	4.4	4.0	--	--	--
7	13	5.5	4.6	4.2	--	--	--
14	13	5.9	4.9	4.4	--	--	--
30	13	6.5	5.5	5.1	--	--	--
60	13	8.2	6.6	5.9	--	--	--
90	13	10	7.9	6.9	--	--	--
120	13	13	9.4	8.2	--	--	--
183	13	27	21	19	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1941

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	2180	3040	3470	3900	--	--
3	14	1530	2020	2260	2470	--	--
7	14	1000	1330	1510	1690	--	--
15	14	751	998	1140	1290	--	--
30	14	553	751	881	1050	--	--
60	14	437	582	675	790	--	--
90	14	399	507	565	626	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1928-1941

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2380	3030	3890	4460	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.151

YOUNGS RIVER BASIN

14251500 YOUNGS RIVER NEAR ASTORIA, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1943-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	5.9	4.5	4.0	3.6	--	--
3	16	6.0	4.6	4.1	3.7	--	--
7	16	6.2	4.8	4.2	3.8	--	--
14	16	6.6	5.1	4.5	4.1	--	--
30	16	7.5	5.7	5.0	4.5	--	--
60	16	9.5	7.0	6.0	5.3	--	--
90	16	12	8.4	7.1	6.3	--	--
120	16	17	11	9.2	7.6	--	--
183	16	35	25	20	17	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1942-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17	1900	2340	2620	2960	--	--
3	17	1400	1720	1930	2180	--	--
7	17	1050	1280	1410	1560	--	--
15	17	777	960	1060	1170	--	--
30	17	611	766	844	922	--	--
60	17	477	602	677	764	--	--
90	17	460	561	612	666	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

PACIFIC SLOPE BASINS IN OREGON
NEHALEM RIVER BASIN

14301000 NEHALEM RIVER NEAR FOSS, OR
(National stream quality accounting network station)

LOCATION.--Lat 45°42'15", long 123°45'15", in NW 1/4 sec.35, T.3 N., R.9 W., Tillamook County, Hydrologic Unit 17100202, on right bank 0.2 mi upstream from Cook Creek, 2.2 mi northeast of Foss, and at mile 13.5.

DRAINAGE AREA.--667 mi².

PERIOD OF RECORD.--October 1939 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 32.60 ft above National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Prior to Nov. 11, 1939, nonrecording gage.

REMARKS.--No regulation. Several small diversions for irrigation and domestic use upstream from station.

AVERAGE DISCHARGE.--48 years, 2,700 ft³/s, 54.97 in/yr, 1,956,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft³/s Jan. 20, 1972, gage height, 23.11 ft; minimum discharge, 34 ft³/s Aug. 29-31, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	47	89	68	58	50	43	38
3	47	90	69	59	51	43	39
7	47	93	71	61	54	46	41
14	47	99	76	66	58	50	45
30	47	112	86	74	65	56	51
60	47	138	103	89	78	67	61
90	47	167	124	106	93	81	73
120	47	217	156	133	117	101	92
183	47	458	331	277	237	198	175

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	48	24700	30700	34300	38500	41300	44100
3	48	21400	26600	29800	33600	36200	38700
7	48	16400	19900	21900	24000	25400	26700
15	48	12600	15500	16900	18400	19300	20000
30	48	9570	11600	12600	13600	14200	14700
60	48	7550	9290	10200	11200	11900	12500
90	48	6800	8370	9150	9940	10400	10800

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
21400	27400	34800	39200	44500	48100	51600	

Systematic n = 48 historical n = 0
Weighted skew = -0.149

WILSON RIVER BASIN

14301500 WILSON RIVER NEAR TILLAMOOK, OR

LOCATION.--Lat $45^{\circ}29'05''$, long $123^{\circ}41'20''$, in SW 1/4 SE 1/4 sec.8, T.1 S., R.8 W., Tillamook County, Hydrologic Unit 17100203, on right bank 0.2 mi upstream from Negro Jack Creek, 8.0 mi east of Tillamook, and at mile 11.4.

DRAINAGE AREA.--161 mi², at cableway, 2.0 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--October 1914 to September 1915, August to November 1916, July 1931 to 1987. Prior to January 1915 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1398: 1953. WSP 1738: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 71.89 ft above National Geodetic Vertical Datum of 1929. Dec. 18, 1914, to Nov. 4, 1916, nonrecording gage at site 2.8 mi downstream at different datum. July 30, 1931, to Sept. 30, 1938, nonrecording gage at site 2.82 mi downstream at datum 28.83 ft lower. Oct. 1, 1938, to Oct. 17, 1968, water-stage recorder at site 2.1 mi downstream at datum 29.76 ft lower.

REMARKS.--No regulation. Small diversions for domestic use upstream from station.

AVERAGE DISCHARGE.--57 years (water years 1915, 1932-87), 1,186 ft³/s, 100.04 in/yr, 859,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft³/s Jan. 20, 1972, gage height, 16.91 ft; maximum gage height, 20.26 ft Dec. 22, 1964 (site and datum then in use); minimum discharge, 32 ft³/s Sept. 5, 1973, but may have been less for short period following a landslide Jan. 31, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1916 reached a stage of 20.8 ft, from floodmark, site and datum then in use.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	55	69	55	49	44	38	35	
3	55	70	56	50	45	39	36	
7	55	72	58	52	47	41	38	
14	55	75	61	54	49	43	40	
30	55	83	66	58	53	47	43	
60	55	97	75	65	58	51	47	
90	55	114	86	75	66	58	54	
120	55	143	104	90	79	70	64	
183	55	267	197	168	148	128	116	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1915-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	57	12800	16900	19400	22600	24800	27100	
3	57	9530	12400	14300	16800	18800	20900	
7	57	6900	8850	10100	11800	13100	14300	
15	57	5030	6430	7330	8430	9240	10000	
30	57	3850	4850	5450	6170	6670	7150	
60	57	3070	3820	4260	4770	5130	5470	
90	57	2790	3410	3730	4060	4260	4440	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1915-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
12700	17200	22800	26300	30300	33100	35800	

Systematic n = 57 historical n = 0
Weighted skew = -0.265

TRASK RIVER BASIN

14302500 TRASK RIVER NEAR TILLAMOOK, OR

LOCATION.--Lat $45^{\circ}26'25''$, long $123^{\circ}43'00''$, in NW 1/4 NW 1/4 sec.31, T.1 S., R.8 W., Tillamook County, Hydrologic Unit 17100203, on right bank 0.6 mi upstream from Gold Creek, 6.2 mi east of Tillamook, and at mile 10.4.

DRAINAGE AREA.--145 mi².

PERIOD OF RECORD.--July 1931 to September 1955, October 1961 to June 1972.

GAGE.--Water-stage recorder. Datum of gage is 58 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--No regulation. Water diverted from the J. W. Barney Reservoir since July 1, 1972.

AVERAGE DISCHARGE.--34 years (water years 1932-55, 1962-72), 966 ft³/s, 90.47 in/yr, 699,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft³/s Dec. 22, 1964, gage height, 13.34 ft; minimum, 42 ft³/s Oct. 15-18, 1952, Sept. 28, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	33	71	58	52	47	42	38
3	33	72	59	53	48	43	39
7	33	75	61	55	50	44	41
14	33	79	64	57	52	46	42
30	33	86	70	62	56	50	47
60	33	98	78	69	62	55	51
90	33	112	88	77	69	61	56
120	33	136	103	90	80	71	65
183	33	232	176	151	132	114	102

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1932-1971

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	34	9550	12200	14000	16500	18400	20400
3	34	7280	9290	10800	12800	14500	16300
7	34	5450	6950	7990	9340	10400	11500
15	34	4170	5250	5880	6590	7080	7530
30	34	3170	3970	4420	4910	5230	5510
60	34	2510	3070	3370	3700	3910	4100
90	34	2300	2720	2920	3100	3210	3300

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1922-1972

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
9930	12600	16500	19300	22900	25800	28800	

Systematic n = 36 historical n = 52
Weighted skew = 0.437

NESTUCCA RIVER BASIN

14302900 NESTUCCA RIVER NEAR FAIRDALE, OR

LOCATION.--Lat 45°18'40", long 123°25'05", in SW 1/4 NW 1/4 sec.15, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17100203, on right bank 100 ft upstream from former Meadow Lake, 0.4 mi downstream from Walker Creek, 5.3 mi southwest of Fairdale, and at mile 49.3.

DRAINAGE AREA.--6.18 mi².

PERIOD OF RECORD.--June 1960 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,778.99 ft above National Geodetic Vertical Datum of 1929 (levels by city of McMinnville).

REMARKS.--Flow regulated since March 1969 by McGuire Lake about 1 mi upstream from station (station 14302800); during winter months lake is empty except when inflow exceeds capacity of outlet tunnel.

AVERAGE DISCHARGE.--27 years (water years 1961-87), 32.1 ft³/s, 70.54 in/yr, 23,260 acre-ft/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft³/s Dec. 22, 1964, gage height, 10.43 ft; minimum discharge, 0.41 ft³/s Sept. 11, 1986.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1971-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		50%	20%	10%	5%	2%	1%
1	17	2.0	1.3	1.0	0.8	--	--
3	17	2.1	1.3	1.0	0.8	--	--
7	17	2.2	1.4	1.1	0.8	--	--
14	17	2.5	1.5	1.1	0.9	--	--
30	17	2.8	1.7	1.3	1.0	--	--
60	17	3.1	2.1	1.8	1.5	--	--
90	17	3.7	2.5	2.1	1.8	--	--
120	17	4.8	3.3	2.7	2.3	--	--
183	17	8.4	6.2	5.2	4.5	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		50%	20%	10%	4%	2%	1%
1	18	279	369	414	458	--	--
3	18	228	289	318	343	--	--
7	18	171	224	251	279	--	--
15	18	139	186	210	233	--	--
30	18	107	145	166	188	--	--
60	18	84	109	120	130	--	--
90	18	71	91	98	104	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

NESTUCCA RIVER BASIN

14303000 NESTUCCA RIVER NEAR McMINTNVILLE, OR

LOCATION.--Lat 45°19'30", long 123°27'00", in E-1/2 sec.8, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17100203, 0.2 mi downstream from Meadow Lake and 14 mi northwest of McMinnville.

DRAINAGE AREA.--12 mi², approximately.

PERIOD OF RECORD.--October 1928 to September 1944.

GAGE.--Water-stage recorder. Elevation of gage is 1,900 ft, from topographic map.

REMARKS.--No diversion upstream from station. Flow slightly regulated by dam at outlet of Meadow Lake. In summer, all of flow leaks under earth fill dam.

AVERAGE DISCHARGE.--16 years (water years 1929-44), 43.6 ft³/s, 31,590 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,480 ft³/s Dec. 22, 1933, and Dec. 27, 1937, gage height, 5.1 ft, from rating curve extended above 800 ft³/s; minimum, 1.0 ft³/s Oct. 11, 1929.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1944

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	1.9	1.5	1.3	1.1	--	--
3	15	1.9	1.5	1.3	1.2	--	--
7	15	1.9	1.5	1.3	1.2	--	--
14	15	2.0	1.6	1.4	1.2	--	--
30	15	2.1	1.7	1.5	1.3	--	--
60	15	2.4	1.8	1.6	1.5	--	--
90	15	2.8	2.1	1.8	1.7	--	--
120	15	3.4	2.5	2.1	1.9	--	--
183	15	6.9	5.0	4.3	3.8	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1944

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	613	934	1140	1390	--	--
3	16	449	685	849	1060	--	--
7	16	300	453	570	738	--	--
15	16	205	296	362	452	--	--
30	16	155	217	259	311	--	--
60	16	121	162	189	222	--	--
90	16	106	137	155	176	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1944

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
476	731	1140	1440	1860	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.108

NESTUCCA RIVER BASIN

14303600 NESTUCCA RIVER NEAR BEAVER, OR

LOCATION.--Lat 45°16'00", long 123°50'45", in SE 1/4 NE 1/4 sec.36, T.3 S., R.10 W., Tillamook County, Hydrologic Unit 17100203, on right bank 150 ft upstream from Saling Creek, 1.2 mi southwest of Beaver, and at mile 13.5.

DRAINAGE AREA.--180 mi².

PERIOD OF RECORD.--October 1964 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 43 ft, from river profile map.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--23 years, 1,068 ft³/s, 80.57 in/yr, 773,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft³/s Jan. 11, 1972, gage height, 22.0 ft, from floodmark; minimum discharge, 32 ft³/s Sept. 14, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1962, reached a stage of 23.4 ft, discharge, 32,500 ft³/s caused by failure of Meadow Lake Dam.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	69	54	47	41	36	--
3	22	70	55	48	42	37	--
7	22	72	56	49	44	38	--
14	22	75	59	51	46	40	--
30	22	84	65	57	51	44	--
60	22	102	76	66	58	50	--
90	22	124	91	77	67	58	--
120	22	155	110	93	81	69	--
183	22	262	195	167	147	128	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1965-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	9830	13800	16300	19500	21900	--
3	23	8030	11000	13000	15400	17300	--
7	23	5940	7760	8910	10300	11300	--
15	23	4520	5780	6600	7610	8370	--
30	23	3500	4310	4800	5360	5750	--
60	23	2830	3530	3920	4360	4650	--
90	23	2480	3140	3500	3900	4160	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
7800	11600	17100	20900	25900	29800	--	

Systematic n = 23 historical n = 0
Weighted skew = -0.037

SILETZ RIVER BASIN

14305500 SILETZ RIVER AT SILETZ, OR

LOCATION.--Lat $44^{\circ}42'55''$, long $123^{\circ}53'10''$, in NW 1/4 SW 1/4 sec.11, T.10 S., R.10 W., Lincoln County, Hydrologic Unit 17100204, on right bank, 1.8 mi downstream from Baker Creek, 1.5 mi east of Siletz, and at mile 42.6.

DRAINAGE AREA.--202 mi².

PERIOD OF RECORD.--October 1905 to November 1911, January to May 1912, January to June 1924, November 1924 to 1987. Prior to December 1905 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1935: 1943, 1947-49(M), 1953-58(M).

GAGE.--Water-stage recorder. Datum of gage is 102.32 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1905, to Sept 30, 1938, nonrecording gage at various sites within 2.5 mi downstream at different datums.

REMARKS.--Slight regulation from logponds. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--68 years (water years 1906-11, 1926-87), 1,550 ft³/s, 104.20 in/yr, 1,123,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1905-12, 1924-38).--Maximum discharge, 34,600 ft³/s Nov. 22, 1909, gage height, 24.6 ft, site and datum then in use; minimum observed discharge, 51 ft³/s Dec. 6, 7, 1929.

EXTREMES FOR PERIOD OF RECORD (1938-87).--Maximum discharge, 32,200 ft³/s Jan. 28, 1965, gage height, 27.32 ft, present site and datum; minimum discharge, 48 ft³/s Sept 25, 26, Oct. 4, 1965, Sept. 28, 29, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1921, reached a stage of 31.6 ft, at site 2.5 mi downstream at different datum, from floodmark, discharge, 40,800 ft³/s, from rating curve extended above 17,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1907-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	65	77	63	57	53	49	46
3	65	78	64	59	55	51	49
7	65	81	67	61	58	54	52
14	65	86	71	65	61	57	54
30	65	96	77	70	65	60	57
60	65	115	90	80	72	65	61
90	65	140	104	90	80	71	66
120	65	177	124	104	91	78	71
183	65	331	234	197	171	146	132

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	66	16600	21500	24600	28300	31000	33600
3	66	12800	16000	18000	20400	22100	23700
7	66	9190	11400	12700	14300	15400	16500
15	66	6700	8190	9050	10000	10700	11300
30	66	5130	6220	6800	7400	7780	8120
60	66	4000	4920	5440	6020	6410	6770
90	66	3620	4400	4800	5210	5470	5690

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1986

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25	2	5	10	25	50	100
80%	50%	20%	10%	4%	2%	1%
15600	20400	26100	29400	33300	36000	38500

Systematic n = 69 historical n = 82
Weighted skew = -0.277

YAQUINA RIVER BASIN

14306030 YAQUINA RIVER NEAR CHITWOOD, OR

LOCATION.--Lat 44°39'29", long 123°50'15", in NE 1/4 SW 1/4 sec.31, T.10 S., R.9 W., Lincoln County, Hydrologic Unit 17100204, on left bank 200 ft below Thornton Creek and 1.1 mi west of Chitwood, and at mile 29.3.

DRAINAGE AREA.--71.0 mi².

PERIOD OF RECORD.--October 1972 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 28.43 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years, 255 ft³/s, 48.77 in/yr, 184,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,150 ft³/s Nov. 16, 1973, gage height, 14.43 ft; minimum discharge, 2.8 ft³/s Sept. 27, 1974.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	7.0	4.9	4.1	3.6	--	--
3	14	7.3	5.1	4.3	3.7	--	--
7	14	7.6	5.5	4.7	4.1	--	--
14	14	8.4	6.0	5.1	4.4	--	--
30	14	9.7	6.9	5.8	5.0	--	--
60	14	12	8.9	7.5	6.5	--	--
90	14	15	11	9.4	8.3	--	--
120	14	18	14	12	11	--	--
183	14	41	27	22	18	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1973-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	2870	3530	3830	4090	--	--
3	15	2260	2790	3050	3310	--	--
7	15	1680	2070	2250	2420	--	--
15	15	1200	1420	1540	1660	--	--
30	15	983	1140	1200	1250	--	--
60	15	754	922	995	1060	--	--
90	15	636	825	923	1020	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1973-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2720	3400	4240	4750	5360	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.047

YAQUINA RIVER BASIN

14306036 MILL CREEK NEAR TOLEDO, OR

LOCATION.--Lat $44^{\circ}34'35''$, long $123^{\circ}54'25''$, in NW 1/4 NE 1/4 sec.33, T.11 S., R.10 W., Lincoln County, Hydrologic Unit 17100204, on left bank 1,200 ft downstream from diversion dam, and 3.5 mi southeast of Toledo.

DRAINAGE AREA.--4.18 mi².

PERIOD OF RECORD.--October 1959 to September 1973.

GAGE.--Water-stage recorder. Elevation of gage is 80 ft, from topographic map. Prior to July 13, 1968, at site 1,200 ft upstream at different datum.

REMARKS.--Except for average discharge, figures not adjusted for diversion for city of Toledo municipal supply. Occasional fluctuation caused by city of Toledo diversion dam, capacity, 250 acre-ft.

COOPERATION.--Record of monthly diversion furnished by city of Toledo.

AVERAGE DISCHARGE.--14 years, 21.2 ft³/s, 68.87 in/yr, 15,360 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 609 ft³/s Jan. 27, 1965, gage height, 5.83 ft, site and datum then in use, from rating curve extended above 65 ft³/s on basis of slope-area measurement of peak flow; no flow Sept. 27, Oct. 3, 4, 1961, Sept. 26, 1962.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	12	0.3	0.1	0.1	--	--	--	--
3	12	0.4	0.1	0.1	--	--	--	--
7	12	0.5	0.3	0.2	--	--	--	--
14	12	0.6	0.4	0.3	--	--	--	--
30	12	0.9	0.5	0.4	--	--	--	--
60	12	1.2	0.7	0.6	--	--	--	--
90	12	1.4	0.9	0.7	--	--	--	--
120	12	1.8	1.2	0.9	--	--	--	--
183	12	3.4	2.6	2.2	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	13	246	314	370	--	--	--	--
3	13	192	233	266	--	--	--	--
7	13	148	174	191	--	--	--	--
15	13	111	133	146	--	--	--	--
30	13	81	97	105	--	--	--	--
60	13	62	78	87	--	--	--	--
90	13	54	67	74	--	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1960-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
283	360	456	514	--	--	--

Systematic n = 14 historical n = 0
Generalized 17b skew = -0.077

ALSEA RIVER BASIN

14306100 NORTH FORK ALSEA RIVER AT ALSEA, OR

LOCATION.--Lat $44^{\circ}22'45''$, long $123^{\circ}35'40''$, in SE 1/4 sec.1, T.14 S., R.8 W., Benton County, Hydrologic Unit 17100205, on left bank at Alsea, 0.2 mi upstream from bridge on Lobster Valley Road, 0.7 mi upstream from confluence with South Fork, and at mile 49.4.

DRAINAGE AREA.--63.0 mi².

PERIOD OF RECORD.--October 1957 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 272.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Some diversions by pumping upstream from station.

AVERAGE DISCHARGE.--30 years, 279 ft³/s, 60.14 in/yr, 202,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s Dec. 22, 1964, gage height, 14.57 ft, from rating curve extended above 2,900 ft³/s on basis of slope-area measurement at gage height 11.80 ft; minimum discharge, 8.3 ft³/s June 8, Sept. 19, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	29	17	14	13	12	12	11
3	29	17	15	14	13	12	12
7	29	18	15	14	14	13	12
14	29	19	16	15	14	14	13
30	29	20	18	16	16	15	14
60	29	23	19	18	17	16	15
90	29	26	22	20	19	17	17
120	29	31	25	23	22	20	19
183	29	53	41	36	33	29	27

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	30	3530	4990	5950	7160	8050	8940
3	30	2630	3690	4410	5360	6080	6820
7	30	1890	2540	2970	3500	3900	4290
15	30	1320	1710	1980	2300	2550	2800
30	30	1020	1250	1380	1510	1590	1670
60	30	797	1010	1120	1230	1300	1370
90	30	699	884	973	1060	1100	1140

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1958-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
3480	4730	6680	8130	10200	11800	13600	

Systematic n = 30 historical n = 0
Weighted skew = 0.422

ALSEA RIVER BASIN

14306400 FIVE RIVERS NEAR FISHER, OR

LOCATION.--Lat $44^{\circ}20'15''$, long $123^{\circ}49'35''$, W-1/2 sec.19, T.14 S., R.9 W., Lincoln County, Hydrologic Unit 17100205, in Siuslaw National Forest, on left bank at downstream side of abandoned highway bridge, 500 ft downstream from Lobster Creek, 3.2 mi north of Fisher, and at mile 3.3.

DRAINAGE AREA.--114 mi².

PERIOD OF RECORD.--August 1958 to September 1963, October 1967 to 1987.

REVISED RECORDS.--WSP 1718: 1959.

GAGE.--Water-stage recorder. Elevation of gage is 130 ft from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--25 years, 549 ft³/s, 65.40 in/yr, 397,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft³/s Jan. 21, 1972, gage height, 21.08 ft; minimum discharge, 16 ft³/s Oct. 1, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 22.3 ft, from floodmarks, discharge, 19,000 ft³/s from rating curve extended above 10,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	27	23	21	20	19	--
3	21	27	23	22	21	20	--
7	21	28	24	23	22	21	--
14	21	29	25	24	23	22	--
30	21	32	27	26	25	24	--
60	21	37	31	29	27	26	--
90	21	44	36	33	30	28	--
120	21	54	43	39	36	34	--
183	21	98	75	65	57	50	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	6450	8950	10600	12700	14300	--
3	23	4890	6710	7940	9540	10800	--
7	23	3570	4630	5320	6160	6780	--
15	23	2490	3140	3570	4100	4500	--
30	23	1970	2410	2660	2920	3100	--
60	23	1570	1970	2190	2420	2560	--
90	23	1360	1730	1930	2130	2250	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6090	8590	12300	15000	18700	21600	--	

Systematic n = 24 historical n = 29
Weighted skew = 0.198

ALSEA RIVER BASIN

14306500 ALSEA RIVER NEAR TIDEWATER, OR
(National stream quality accounting network station)

LOCATION.--Lat 44°23'10", long 123°49'50", in NW 1/4 NW 1/4 sec.6, T.14 S., R.9 W., Lincoln County, Hydrologic Unit 17100205, on right bank 0.9 mi downstream from Grass Creek, 2.5 mi upstream from Scott Creek, 3.8 mi southeast of Tidewater, and at mile 21.0.

DRAINAGE AREA.--334 mi².

PERIOD OF RECORD.--October 1939 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 48.16 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 16, 1939, nonrecording gage at present site and datum.

REMARKS.--No regulation. Diversion for irrigation upstream from station.

AVERAGE DISCHARGE.--48 years, 1,514 ft³/s, 61.56 in/yr, 1,097,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft³/s Dec. 22, 1964, gage height, 27.44 ft; minimum discharge, 45 ft³/s Sept. 26, 27, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on or about Feb. 3, 1890, reached a stage of 29.5 ft, from floodmark (discharge not determined).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	46	76	63	58	53	49	46
3	46	77	64	59	54	50	47
7	46	79	67	61	56	52	49
14	46	83	70	64	60	55	52
30	46	90	75	69	64	59	56
60	46	106	86	78	72	66	62
90	46	122	98	88	81	73	69
120	46	149	119	106	97	88	83
183	46	278	210	181	159	137	124

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	47	16900	22000	24900	28300	30600	32700
3	47	13200	17400	19900	22900	25000	27000
7	47	9760	12700	14400	16400	17700	19000
15	47	7060	8980	10000	11200	11900	12600
30	47	5570	6830	7400	7900	8170	8380
60	47	4330	5420	5960	6490	6810	7080
90	47	3860	4840	5300	5740	5990	6190

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1940-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15300	20500	27000	31000	35700	39100	42400	

Systematic n = 48 historical n = 0
Weighted skew = -0.186

ALSEA RIVER BASIN

14306600 DRIFT CREEK NEAR SALADO, OR

LOCATION.--Lat $44^{\circ}30'50''$, long $123^{\circ}50'50''$, in NE 1/4 sec.24, T.12 S., R.10 W., Lincoln County, Hydrologic Unit 17100205, on right bank 0.2 mi downstream from Cape Horn Creek, 4.1 mi southwest of Salado, 8.5 mi southeast of Toledo, and at mile 21.8.

DRAINAGE AREA.--20.5 mi².

PERIOD OF RECORD.--September 1958 to September 1963, June 1965 to September 1970.

GAGE.--Water-stage recorder. Elevation of gage is 460 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1959-63, 1966-70), 120 ft³/s, 79.49 in/yr, 86,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s Nov. 25, 1962, gage height, 8.34 ft, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement at gage height 8.11 ft; maximum gage height, 8.79 ft Dec. 4, 1966 (backwater from debris); minimum discharge, 3.8 ft³/s Sept. 7, 8, 1958.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1970

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	1360	1600	1750	--	--	--
3	10	1070	1200	1250	--	--	--
7	10	780	914	997	--	--	--
15	10	562	692	774	--	--	--
30	10	413	496	551	--	--	--
60	10	319	381	417	--	--	--
90	10	285	330	354	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1560	2010	2570	2920	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = -0.067

ALSEA RIVER BASIN

14306700 NEEDLE BRANCH NEAR SALADO, OR

LOCATION.--Lat $44^{\circ}30'55''$, $123^{\circ}51'20''$, in SW 1/4 sec.24, T.12 S., R.10 W., Lincoln County, Hydrologic Unit 17100205, on right bank 500 ft upstream from mouth, 4.6 mi west of Salado, and 8.5 mi southeast of Toledo.

DRAINAGE AREA.--0.27 mi², computed as 174.64 acres on basis of field survey by Oregon State University.

PERIOD OF RECORD.--October 1958 to September 1973.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 440 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years, 1.64 ft³/s, 82.49 in/yr, 1,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64 ft³/s Jan. 11, 1972, gage height, 3.75 ft; minimum, 0.01 ft³/s Sept. 8, 9, 1962, Sept. 18 to Oct. 3, 1965, Aug. 17, Sept. 14, 23-28, 1967, many days in August and September 1970, Aug. 26, 1971, many days in August and September 1972, several days in August and September 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	0.0	0.0	0.0	0.0	--	--
3	14	0.0	0.0	0.0	0.0	--	--
7	14	0.0	0.0	0.0	0.0	--	--
14	14	0.0	0.0	0.0	0.0	--	--
30	14	0.0	0.0	0.0	0.0	--	--
60	14	0.1	0.0	0.0	0.0	--	--
90	14	0.1	0.0	0.0	0.0	--	--
120	14	0.1	0.1	0.1	0.0	--	--
183	14	0.3	0.2	0.1	0.1	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	21	27	33	43	--	--
3	15	15	19	22	26	--	--
7	15	11	14	15	17	--	--
15	15	8.2	10	11	13	--	--
30	15	6.1	7.5	8.3	9.2	--	--
60	15	4.6	6.0	6.9	8.0	--	--
90	15	4.1	5.1	5.8	6.5	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
24	30	39	45	51	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.070

ALSEA RIVER BASIN

14306800 FLYNN CREEK NEAR SALADO, OR

LOCATION.--Lat $44^{\circ}32'20''$, long $123^{\circ}51'05''$, in SW 1/4 sec.12, T.12 S., R.10 W., Lincoln County, Hydrologic Unit 17100205, on right bank 1,000 ft upstream from mouth, 3.4 mi west of Salado, and 6.9 mi southeast of Toledo.DRAINAGE AREA.--0.78 mi², computed as 501.96 acres on basis of field survey by Oregon State University.

PERIOD OF RECORD.--September 1958 to September 1973.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 685 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 4.37 ft³/s, 76.08 in/yr, 3,170 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 139 ft³/s Jan. 11, 1972, gage height, 4.73 ft; minimum, 0.07 ft³/s Sept. 27, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	0.2	0.1	0.1	0.1	--	--
3	14	0.2	0.1	0.1	0.1	--	--
7	14	0.2	0.1	0.1	0.1	--	--
14	14	0.2	0.1	0.1	0.1	--	--
30	14	0.2	0.2	0.1	0.1	--	--
60	14	0.3	0.2	0.1	0.1	--	--
90	14	0.3	0.2	0.2	0.2	--	--
120	14	0.4	0.3	0.2	0.2	--	--
183	14	0.8	0.5	0.4	0.4	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	45	60	74	97	--	--
3	15	36	46	54	67	--	--
7	15	29	34	38	44	--	--
15	15	22	27	30	33	--	--
30	15	16	19	21	23	--	--
60	15	12	15	17	20	--	--
90	15	11	13	15	17	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
47	64	86	101	120	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.063

ALSEA RIVER BASIN

14306810 DEER CREEK NEAR SALADO, OR

LOCATION.--Lat $44^{\circ}32'05''$, long $123^{\circ}52'35''$, in SW 1/4 sec.11, T.12 S., R.10 W., Lincoln County, Hydrologic Unit 17100205, Siuslaw National Forest, on right bank 1,000 ft upstream from mouth, 4.6 mi west of Salado, and 6.5 mi southeast of Toledo.

DRAINAGE AREA.--1.17 mi², computed as 749.5 acres on basis of field survey by Oregon State University.

PERIOD OF RECORD.--September 1958 to September 1973.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 600 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 6.49 ft³/s, 75.33 in/yr, 4,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201 ft³/s Jan. 28, 1965, gage height, 4.21 ft; maximum gage height, 4.39 ft Jan. 20, 1972 (backwater from log); minimum discharge, 0.15 ft³/s Sept. 2, 14-16, 1972.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1960-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	0.3	0.2	0.2	0.2	--	--
3	14	0.3	0.2	0.2	0.2	--	--
7	14	0.3	0.2	0.2	0.2	--	--
14	14	0.3	0.3	0.2	0.2	--	--
30	14	0.4	0.3	0.2	0.2	--	--
60	14	0.4	0.3	0.3	0.2	--	--
90	14	0.5	0.4	0.3	0.3	--	--
120	14	0.6	0.4	0.4	0.3	--	--
183	14	1.3	0.9	0.8	0.7	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1959-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	70	95	117	154	--	--
3	15	54	69	83	104	--	--
7	15	42	51	58	68	--	--
15	15	32	40	44	49	--	--
30	15	24	29	31	35	--	--
60	15	18	23	26	29	--	--
90	15	16	19	22	25	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1959-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
78	103	135	156	180	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.074

BIG CREEK BASIN

14306900 BIG CREEK NEAR ROOSEVELT BEACH, OR

LOCATION.--Lat 44°10'05", long 124°03'55", in SE 1/4 SE 1/4 sec.13, T.16 S., R.12 W., Lane County, Hydrologic Unit 17100205, on right bank 1.0 mi downstream from Frying Pan Creek, 2.5 mi east of Roosevelt Beach.

DRAINAGE AREA.--11.9 mi².

PERIOD OF RECORD.--October 1972 to 1987.

GAGE.--Water-stage recorder. Elevation of gage is 141 ft, by barometer.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years, 92.3 ft³/s, 105.33 in/yr, 66,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,150 ft³/s Nov. 30, 1975, gage height, 6.90 ft; minimum discharge, 3.8 ft³/s Oct. 15, 1979.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1974-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	14	6.2	5.5	5.1	4.9	--	--	
3	14	6.3	5.5	5.2	4.9	--	--	
7	14	6.4	5.7	5.4	5.2	--	--	
14	14	6.8	6.0	5.7	5.4	--	--	
30	14	7.6	6.6	6.2	5.9	--	--	
60	14	9.3	8.0	7.3	6.9	--	--	
90	14	11	8.7	8.0	7.5	--	--	
120	14	14	11	9.3	8.3	--	--	
183	14	23	18	16	14	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1973-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	15	840	1100	1250	1410	--	--	
3	15	668	852	951	1060	--	--	
7	15	506	637	709	789	--	--	
15	15	374	459	509	566	--	--	
30	15	306	372	409	451	--	--	
60	15	242	304	341	385	--	--	
90	15	213	278	317	361	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1973-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
739	1060	1490	1770	2120	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.168

SIUSLAW RIVER BASIN

14307500 LAKE CREEK AT TRIANGLE LAKE, OR

LOCATION.--Lat $44^{\circ}09'40''$, long $123^{\circ}34'10''$, in SW 1/4 sec.20, T.16 S., R.7 W., Lane County, Hydrologic Unit 17100206, on right bank 500 ft downstream from outlet of Triangle Lake and 3.0 mi southwest of Blachly.

DRAINAGE AREA.--52.5 mi².

PERIOD OF RECORD.--August 1931 to September 1955.

GAGE.--Water-stage recorder. Datum of gage is 672.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by natural storage in Triangle Lake. No diversion upstream from station.

AVERAGE DISCHARGE.--24 years (water years 1932-55), 210 ft³/s, 152,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,180 ft³/s Feb. 18, 1949, gage-height, 8.33 ft, from rating curve extended above 2,400 ft³/s by logarithmic plotting; maximum gage height, 8.68 ft Feb. 18, 1949 (backwater from debris); minimum discharge, 2.7 ft³/s Aug. 1, 1944; minimum daily, 4.2 ft³/s Oct. 18, 19, 1952.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	9.6	7.1	6.1	5.4	4.6	--
3	23	9.6	7.2	6.2	5.5	4.8	--
7	23	9.9	7.4	6.3	5.6	4.8	--
14	23	10	7.7	6.7	5.9	5.2	--
30	23	11	8.4	7.3	6.5	5.8	--
60	23	13	9.6	8.4	7.6	6.9	--
90	23	14	11	9.4	8.5	7.6	--
120	23	18	13	11	9.6	8.3	--
183	23	35	24	20	16	13	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1932-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	2140	3110	3680	4330	4760	--
3	24	1760	2460	2860	3320	3620	--
7	24	1330	1820	2090	2390	2590	--
15	24	1030	1300	1420	1520	1570	--
30	24	804	951	998	1030	1040	--
60	24	620	737	782	816	831	--
90	24	553	672	724	769	793	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1932-1955

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1440	2220	3300	4020	4900	5540	--	
Systematic n = 24 historical n = 0 Weighted skew = -0.286							

SIUSLAW RIVER BASIN

14307580 LAKE CREEK NEAR DEADWOOD, OR

LOCATION.--Lat 44°04'58", long 123°47'05", in NW 1/4 NW 1/4 sec.21, T.17 S., R.9 W., Lane County, Hydrologic Unit 17100206, on right bank 0.2 mi upstream from Indian Creek, 1.5 mi southwest of Deadwood, and at mile 2.6.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--October 1967 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 178.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow slightly regulated by natural storage in Triangle Lake. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--20 years, 718 ft³/s, 56.04 in/yr, 520,200 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft³/s Dec. 25, 1980, gage height, 15.86 ft; minimum discharge, 12 ft³/s Aug. 14, 15, 17, 18, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	19	26	19	16	14	--	--	
3	19	26	20	17	15	--	--	
7	19	27	21	18	15	--	--	
14	19	29	22	19	16	--	--	
30	19	33	25	22	19	--	--	
60	19	39	30	27	25	--	--	
90	19	47	37	32	29	--	--	
120	19	59	46	41	37	--	--	
183	19	112	85	73	65	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	20	7450	10600	12800	15800	18100	--	
3	20	6140	8530	10200	12300	13900	--	
7	20	4620	6030	6950	8080	8920	--	
15	20	3380	4250	4780	5420	5880	--	
30	20	2670	3230	3520	3830	4020	--	
60	20	2090	2640	2930	3230	3410	--	
90	20	1820	2350	2610	2880	3030	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1968-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6660	9640	13800	16600	20200	22900	--	

Systematic n = 20 historical n = 0
Generalized 17b skew = -0.088

SIUSLAW RIVER BASIN

14307620 SIUSLAW RIVER NEAR MAPLETON, OR
(National stream quality accounting network station)

LOCATION.--Lat 44°03'45", long 123°52'55", in SW 1/4 NW 1/4 sec.27, T.17 S., R.10 W., Lane County, Hydrologic Unit 17100206, on right bank 250 ft above Shoemaker Creek, 2.5 mi northwest of Mapleton, and at mile 23.7.

DRAINAGE AREA.--588 mi².

PERIOD OF RECORD.--October 1967 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 41 ft, from topographic map.

REMARKS.--No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--20 years, 2,141 ft³/s, 49.45 in/yr, 1,551,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,400 ft³/s Jan. 21, 1972, gage height, 28.45 ft; minimum discharge, 45 ft³/s Aug. 18, 19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1964 reached a stage of about 28 ft, from information by local residents (discharge not determined).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	89	66	57	51	--	--
3	19	91	68	59	53	--	--
7	19	95	71	62	55	--	--
14	19	101	76	66	59	--	--
30	19	112	86	76	68	--	--
60	19	137	105	92	82	--	--
90	19	164	126	111	100	--	--
120	19	204	159	141	129	--	--
183	19	367	281	246	221	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	23300	32900	38800	45800	50600	--
3	19	19200	26500	30900	36000	39500	--
7	19	14100	18600	21300	24500	26600	--
15	19	10000	13000	14700	16800	18300	--
30	19	7890	9650	10500	11300	11800	--
60	19	6230	7960	8810	9610	10100	--
90	19	5450	7040	7760	8420	8770	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1968-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
18900	27000	38200	45500	54700	61500	--	

Systematic n = 20 historical n = 0
Generalized 17b skew = -0.128

SIUSLAW RIVER BASIN

14307645 NORTH FORK SIUSLAW RIVER NEAR MINERVA, OR

LOCATION.--Lat 44°02'50", long 124°00'10", in NW 1/4 SW 1/4 sec.34, T.17 S., R.11 W., Lane County, Hydrologic Unit 17100206, on left bank 10 ft downstream from county road bridge, 0.3 mi upstream from Condon Creek, 2.7 mi southwest of Minerva, and at mile 13.09.

DRAINAGE AREA.--41.2 mi².

PERIOD OF RECORD.--October 1967 to September 1985 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 40 ft, from topographic map.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--18 years, 297 ft³/s, 97.89 in/yr, 215,200 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,400 ft³/s Dec. 25, 1980, gage height, 24.36 ft; minimum discharge, 11 ft³/s Sept. 9-11, 17, 18, 1980.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1969-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	17	15	12	11	11	--	--	
3	17	16	13	12	11	--	--	
7	17	16	14	13	12	--	--	
14	17	17	14	13	12	--	--	
30	17	19	16	15	14	--	--	
60	17	24	19	17	16	--	--	
90	17	29	22	19	17	--	--	
120	17	38	28	23	20	--	--	
183	17	62	47	41	37	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1968-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	18	2450	3090	3530	4090	--	--	
3	18	2090	2570	2850	3170	--	--	
7	18	1700	2030	2200	2360	--	--	
15	18	1250	1490	1630	1790	--	--	
30	18	1030	1200	1290	1380	--	--	
60	18	815	1010	1110	1220	--	--	
90	18	713	900	995	1090	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1968-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2230	2870	3650	4120	4680	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = -0.173

UMPQUA RIVER BASIN

14307700 JACKSON CREEK NEAR TILLER, OR

LOCATION.--Lat $42^{\circ}57'15''$, long $122^{\circ}49'40''$, in SW 1/4 NE 1/4 sec.21 T.30 S., R.1 W., Douglas County, Hydrologic Unit 17100302, on right bank 0.5 mi upstream from Chapman Creek, 0.8 mi downstream from Beaver Creek, 6.5 mi northeast of Tiller, and at mile 3.0. Records include flow of Chapman Creek.

DRAINAGE AREA.--152 mi², at cableway 0.6 mi downstream where all discharge measurements are made.

PERIOD OF RECORD.--October 1955 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 1,240.25 ft above National Geodetic Vertical Datum of 1929 (levels by Douglas County Water Resources Department).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--31 years, 319 ft³/s, 28.50 in/yr, 231,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s Dec. 22, 1964, gage height, 18.0 ft, from floodmark, from rating curve extended above 5,100 ft³/s and basin runoff comparison; minimum discharge, 11 ft³/s Jan. 6, 1977, Nov. 13, 1978, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1986

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	17	15	14	13	12	11
3	30	18	15	14	13	12	12
7	30	18	16	14	14	13	12
14	30	19	16	15	14	13	13
30	30	20	17	16	15	15	14
60	30	22	19	18	17	16	16
90	30	25	21	20	19	18	18
120	30	31	25	23	21	19	18
183	30	72	49	39	33	27	23

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1986

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	4100	6380	7720	9190	10100	11000
3	31	2820	4470	5580	6990	8020	9030
7	31	1860	2880	3600	4550	5280	6030
15	31	1300	1890	2290	2780	3150	3520
30	31	1010	1390	1610	1880	2060	2230
60	31	790	1080	1270	1480	1630	1780
90	31	697	936	1070	1220	1320	1410

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1986

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
	2 80%	5 50%	10 20%	25 10%	50 4%	100 2%	100 1%
1.25	3630	5740	9130	11600	15100	17900	20900

Systematic n = 31 historical n = 0
Weighted skew = 0.037

UMPQUA RIVER BASIN

14308000 SOUTH UMPQUA RIVER AT TILLER, OR

LOCATION.--Lat $42^{\circ}55'50''$, long $122^{\circ}56'50''$, in NE 1/4 sec.33, T.30 S., R.2 W., Douglas County, Hydrologic Unit 17100302, Umpqua National Forest, on left bank 0.3 mi upstream from bridge on State Highway 227 at Tiller, 0.3 mi upstream from Elk Creek, and at mile 187.31.

DRAINAGE AREA.--449 mi².

PERIOD OF RECORD.--October 1910 to December 1911, October 1939 to 1987. Monthly discharge only for some periods, published in WSP 1318. Prior to December 1911, published as South Fork of Umpqua River at Tiller.

REVISED RECORDS.--WSP 1448: 1911(M), 1912, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 991.8 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Oct. 1, 1939, nonrecording gage at site 0.2 mi downstream at different datum.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--49 years, 1,041 ft³/s, 31.48 in/yr, 754,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,200 ft³/s Dec. 22, 1964, gage height, 25.72 ft; minimum discharge observed, 20 ft³/s Sept. 3, 4, 1911.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1941-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	47	45	38	34	31	28	26
3	47	46	38	34	31	28	26
7	47	47	39	35	32	29	27
14	47	49	41	37	34	31	29
30	47	54	45	41	37	34	32
60	47	62	51	46	42	38	35
90	47	73	60	54	50	46	43
120	47	94	76	68	62	56	53
183	47	228	157	128	108	89	78

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1911-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	49	13700	21200	25600	30500	33700	36500
3	49	9610	14800	18100	22000	24700	27200
7	49	6450	9630	11600	14000	15700	17300
15	49	4440	6310	7470	8860	9840	10800
30	49	3390	4650	5410	6300	6920	7500
60	49	2670	3660	4250	4950	5430	5890
90	49	2360	3180	3680	4240	4630	4990

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
11500	18000	28300	35700	45800	53800	62200	

Systematic n = 49 historical n = 0
Weighted skew = -0.006

UMPQUA RIVER BASIN

14308500 ELK CREEK NEAR DREW, OR

LOCATION.--Lat $42^{\circ}53'25''$, long $122^{\circ}55'00''$, in SW 1/4 sec.11, T.31 S., R.2 W., Douglas County, Hydrologic Unit 17100302, on right bank 100 ft downstream from Dixon Creek, 0.1 mi upstream from Drew Creek, 1.3 mi northwest of Drew, 3.3 mi southeast of Tiller, and at mile 4.1.

DRAINAGE AREA.--54.4 mi².

PERIOD OF RECORD.--September 1954 to September 1982, October 1986 to September 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,279.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--29 years (1955-82, 1987), 83.1 ft³/s, 20.74 in/yr, 60,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,880 ft³/s Dec. 22, 1964, gage height, 10.61 ft, from rating curve extended above 2,900 ft³/s on basis of slope-area measurement at gage height 10.34 ft; maximum gage height, 10.80 ft Jan. 15, 1974; no flow at times in September 1974, Aug. 16-22, 1977, Aug. 17-24, Sept. 16-19, 1981, Sept. 7, 8, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 11.8 ft, from floodmarks, probably for flood in January or November 1953, discharge, about 11,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	27	0.5	0.1	0.0	0.0	0.0	0.0
3	27	0.5	0.1	0.0	0.0	0.0	0.0
7	27	0.6	0.1	0.0	0.0	0.0	0.0
14	27	0.6	0.2	0.1	0.0	0.0	0.0
30	27	0.8	0.3	0.2	0.1	0.0	0.0
60	27	1.2	0.6	0.4	0.3	0.2	0.1
90	27	1.5	1.0	0.8	0.7	0.5	0.5
120	27	2.4	1.6	1.3	1.1	1.0	0.9
183	27	7.3	4.7	3.7	3.1	2.5	2.2

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29	1710	2830	3490	4200	4650	5040
3	29	1100	1820	2280	2830	3210	3560
7	29	707	1140	1420	1760	2010	2240
15	29	459	697	845	1020	1140	1250
30	29	330	484	580	693	772	847
60	29	260	371	432	497	537	573
90	29	219	310	362	418	454	485

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1953-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1680	3000	5300	7130	9760	11900	14300	

Systematic n = 28 historical n = 35
Weighted skew = -0.039

UMPQUA RIVER BASIN

14308600 SOUTH UMPQUA RIVER AT DAYS CREEK, OR

LOCATION.--Lat $42^{\circ}58'05''$, long $123^{\circ}09'60''$, in NW 1/4 sec.15, T.30 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on left bank 0.3 mi upstream from Days Creek, 0.4 mi southeast of community of Days Creek, and at mile 170.2.

DRAINAGE AREA.--641 mi².

PERIOD OF RECORD.--March 1975 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 738.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--12 years, 1,180 ft³/s, 25.00 in/yr, 854,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s Dec. 6, 1981, gage height, 22.39 ft; minimum discharge, 31 ft³/s Sept. 15, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	46	38	35	--	--	--
3	12	48	40	36	--	--	--
7	12	50	41	37	--	--	--
14	12	54	44	40	--	--	--
30	12	60	50	45	--	--	--
60	12	74	62	56	--	--	--
90	12	87	75	71	--	--	--
120	12	118	96	87	--	--	--
183	12	283	186	146	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1976-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	18000	24900	26900	--	--	--
3	12	12800	17300	18700	--	--	--
7	12	8180	11600	12900	--	--	--
15	12	5770	7970	8920	--	--	--
30	12	4290	5860	6580	--	--	--
60	12	3260	4360	4840	--	--	--
90	12	2780	3750	4200	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1975-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15300	21800	31300	37900	--	--	--	

Systematic n = 13 historical n = 0
Generalized 17b skew = 0.067

UMPQUA RIVER BASIN

14308700 DAYS CREEK AT DAYS CREEK, OR

LOCATION.--Lat $42^{\circ}58'55''$, long $123^{\circ}08'55''$, in NE 1/4 sec.10, T.30 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on left bank 150 ft downstream from Wood Creek, 1.0 mi northeast of community of Days Creek, and at mile 1.3.

DRAINAGE AREA.--55.3 mi².

PERIOD OF RECORD.--October 1955 to July 1972.

GAGE.--Nonrecording gage and crest-stage gage. Elevation of gage is 810 ft, from topographic map. Prior to Oct. 1, 1962, at site 170 ft upstream at datum 3.06 ft higher.

REMARKS.--No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 44.4 ft³/s, 32,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,450 ft³/s Feb. 21, 1956, gage height, 11.24 ft, site and datum then in use, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement of peak flow; no flow for many days in July and August 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	0.3	0.2	0.1	0.1	--	--
3	16	0.4	0.2	0.1	0.1	--	--
7	16	0.5	0.2	0.1	0.1	--	--
14	16	0.5	0.2	0.1	0.1	--	--
30	16	0.7	0.3	0.2	0.1	--	--
60	16	0.8	0.5	0.4	0.3	--	--
90	16	1.1	0.7	0.6	0.6	--	--
120	16	1.6	1.1	0.9	0.8	--	--
183	16	3.8	2.5	2.1	1.9	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1971

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	934	1360	1650	2020	--	--
3	16	657	922	1090	1290	--	--
7	16	406	593	732	926	--	--
15	16	264	378	455	555	--	--
30	16	197	272	320	381	--	--
60	16	142	194	233	287	--	--
90	16	118	164	198	244	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1971

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1030	1560	2370	2960	3770	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.067

UMPQUA RIVER BASIN

14309000 COW CREEK NEAR AZALEA, OR

LOCATION.--Lat 42°49'30", long 123°10'40", in N-1/2 sec.4, T.32 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on right bank 0.8 mi upstream from Whitehorse Creek, 4.5 mi northeast of Azalea, and at mile 58.2.

DRAINAGE AREA.--78.0 mi².

PERIOD OF RECORD.--April 1926 to September 1928 (no winter records), April 1929 to December 1931, April 1932 to 1987.

REVISED RECORDS.--WSP 984: 1933-36. WSP 1154: 1946(M), 1948(M). WSP 1448: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,694.32 ft above National Geodetic Vertical Datum of 1929 (Douglas County Road Department bench mark). Prior to July 19, 1949, nonrecording gage at same site and datum.

REMARKS.--Flow regulated since Oct. 7, 1985 by Galesville Reservoir (station 14308995). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--57 years (water years 1930-31, 1933-87), 111 ft³/s, 19.33 in/yr, 80,420 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s Jan. 15, 1974, gage height, 16.40 ft, from high-water mark in well; minimum discharge, 1.1 ft³/s Aug. 12, 1981, but may have been less during period of no gage-height record Sept. 4-30, 1970.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	55	8.3	5.9	4.7	3.8	2.9	2.4
3	55	8.5	6.0	4.8	3.9	3.0	2.5
7	55	8.8	6.4	5.3	4.4	3.5	3.0
14	55	9.1	6.8	5.7	4.8	3.9	3.4
30	55	9.7	7.3	6.1	5.3	4.3	3.8
60	55	11	8.4	7.2	6.4	5.5	4.9
90	55	12	9.3	8.4	7.6	6.8	6.4
120	55	14	11	9.7	8.8	7.9	7.3
183	55	21	16	14	12	11	9.8

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	55	1880	3140	3880	4670	5170	5590
3	55	1250	2070	2560	3080	3410	3700
7	55	831	1330	1620	1940	2150	2330
15	55	557	861	1040	1240	1370	1490
30	55	402	612	738	881	976	1060
60	55	324	471	549	629	676	716
90	55	275	399	465	534	577	612

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1930-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25	2	5	10	25	50	100
80%	50%	20%	10%	4%	2%	1%
1440	2780	4860	6280	8040	9300	10500

Systematic n = 55 historical n = 0
Weighted skew = -0.563

UMPQUA RIVER BASIN

14309500 WEST FORK COW CREEK NEAR GLENDALE, OR

LOCATION.--Lat 42°48'15", long 123°36'35", in SW 1/4 NE 1/4 sec.11, T.32 S., R.8 W., Douglas County, Hydrologic Unit 17100302, on left bank 1.6 mi downstream from Bear Creek, 11 mi northwest of Glendale, and at mile 0.8.

DRAINAGE AREA.--86.9 mi².

PERIOD OF RECORD.--August 1955 to 1987.

REVISED RECORDS.--WSP 1738: 1956, drainage area (former site). WSP 1935: 1956.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,018.48 ft above National Geodetic Vertical Datum of 1929. Prior to June 8, 1964, at site 0.6 mi upstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--32 years, 273 ft³/s, 42.66 in/yr, 197,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s Dec. 22, 1964, gage height, 18.59 ft, from floodmark, from rating curve extended above 2,600 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 3.7 ft³/s Aug. 17, 19, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	31	7.1	5.9	5.4	4.9	4.4	4.1
3	31	7.3	6.1	5.5	5.0	4.5	4.1
7	31	7.4	6.2	5.6	5.1	4.6	4.3
14	31	7.8	6.5	5.9	5.4	4.8	4.4
30	31	8.2	7.0	6.4	6.0	5.6	5.3
60	31	9.3	8.0	7.5	7.1	6.8	6.6
90	31	11	9.6	9.2	8.8	8.6	8.4
120	31	15	12	11	10	9.6	9.1
183	31	31	22	19	16	14	13

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	32	4520	6490	7660	8990	9880	10700
3	32	3170	4570	5460	6540	7300	8040
7	32	2160	3090	3710	4490	5070	5650
15	32	1480	2010	2340	2720	2990	3250
30	32	1120	1490	1700	1930	2080	2220
60	32	886	1160	1300	1430	1500	1560
90	32	737	970	1080	1190	1250	1300

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
4580	6700	9570	11400	13700	15300	16900	

Systematic n = 32 historical n = 0
Weighted skew = -0.250

UMPQUA RIVER BASIN

14310000 COW CREEK NEAR RIDDLE, OR

LOCATION.--Lat $42^{\circ}55'25''$, long $123^{\circ}25'40''$, in NE 1/4 sec.32, T.30 S., R.6 W., Douglas County, Hydrologic Unit 17100302, on left bank 0.4 mi upstream from Council Creek, 3.8 mi southwest of Riddle, and at mile 6.7.

DRAINAGE AREA.--456 mi².

PERIOD OF RECORD.--September 1954 to 1987.

REVISED RECORDS.--WSP 1935: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 682.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Regulated since Oct. 7, 1985 by Galesville Reservoir (station 14308995). Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--33 years, 886 ft³/s, 641,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,400 ft³/s Jan. 15, 1974, gage height, 28.17 ft; minimum discharge, 7.4 ft³/s Aug. 17-19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of about 28.5 ft, present site and datum, from slope-area measurement, discharge, 41,100 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		25	19	16	13	10	9.1
1	30	25	19	16	13	10	9.1
3	30	26	19	16	13	10	9.1
7	30	27	20	16	14	11	9.2
14	30	28	21	17	14	11	9.7
30	30	30	22	19	16	14	12
60	30	34	26	23	20	17	15
90	30	41	32	29	26	23	22
120	30	52	43	39	36	33	32
183	30	104	78	68	60	53	48

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		16500	24200	27700	30600	32100	33200
3	31	11000	16700	19900	23200	25200	26900
7	31	7250	11300	13800	16700	18600	20400
15	31	4870	7290	8690	10300	11300	12200
30	31	3670	5340	6260	7220	7810	8320
60	31	2910	4110	4680	5220	5510	5740
90	31	2430	3430	3920	4390	4660	4860

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1951-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
13200	20300	29800	35700	42700	47500	52100	

Systematic n = 31 historical n = 58
Weighted skew = -0.435

UMPQUA RIVER BASIN

14310700 SOUTH MYRTLE CREEK NEAR MYRTLE CREEK, OR

LOCATION.--Lat 43°01'55", long 123°11'30", in SE 1/4 sec.20, T.29 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on left bank 0.6 mi downstream from School Hollow, 5.5 mi east of town of Myrtle Creek, and at mile 7.3.

DRAINAGE AREA.--43.9 mi².

PERIOD OF RECORD.--October 1955 to July 1972.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 775.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 65.9 ft³/s, 57,740 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,050 ft³/s Dec. 11, 1956, gage height, 7.72 ft, from rating curve extended above 1,100 ft³/s; minimum observed, 0.20 ft³/s Aug. 2, 1961.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	16	0.8	0.4	0.3	0.2	--	--
3	16	1.2	0.6	0.4	0.3	--	--
7	16	1.6	1.0	0.8	0.6	--	--
14	16	1.8	1.2	0.9	0.8	--	--
30	16	2.2	1.5	1.2	1.0	--	--
60	16	2.9	2.0	1.7	1.4	--	--
90	16	3.8	2.9	2.5	2.2	--	--
120	16	5.1	3.9	3.4	3.0	--	--
183	16	10	7.3	6.3	5.6	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1971

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	1100	1520	1790	2130	--	--
3	16	808	1070	1210	1370	--	--
7	16	521	722	854	1020	--	--
15	16	357	480	551	629	--	--
30	16	266	358	414	478	--	--
60	16	196	267	316	380	--	--
90	16	168	227	265	313	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1971

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1320	1800	2480	2940	3530	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.066

UMPQUA RIVER BASIN

14311000 NORTH MYRTLE CREEK NEAR MYRTLE CREEK, OR

LOCATION.--Lat 43°02'30", long 123°15'30", in SW 1/4 sec.14, T.29 S., R.5 W., Douglas County, Hydrologic Unit 17100302, on left bank 300 ft downstream from Bilger Creek, 1.5 mi northeast of town of Myrtle Creek, and at mile 2.2.

DRAINAGE AREA.--54.2 mi².

PERIOD OF RECORD.--October 1955 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 642.81 ft above National Geodetic Vertical Datum of 1929 (levels by City Engineer of Myrtle Creek). Oct. 1, 1955, to Aug. 31, 1977, at site 340 ft downstream on right bank. Oct. 1, 1955, to Sept. 30, 1975, at datum 1.63 ft lower and Oct. 1, 1975, to Aug. 31, 1977, at datum 1.33 ft lower.

REMARKS.--No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--31 years, 73.2 ft³/s, 53,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft³/s Dec. 6, 1981, gage height, 10.08 ft, from floodmark, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 11.58 ft Dec. 26, 1955 (backwater from debris), site and datum then in use; no flow at times in July 1973 and August 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1986

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	1.7	0.8	0.4	0.2	0.0	0.0
3	30	1.9	0.9	0.5	0.2	0.0	0.0
7	30	2.0	1.0	0.7	0.4	0.0	0.0
14	30	2.5	1.2	0.7	0.3	0.1	0.1
30	30	2.5	1.6	1.2	1.0	0.7	0.6
60	30	3.2	2.1	1.7	1.4	1.1	1.0
90	30	3.9	2.8	2.4	2.1	1.7	1.6
120	30	5.1	3.9	3.4	3.0	2.7	2.4
183	30	9.5	7.2	6.4	5.8	5.2	4.9

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1986

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	1390	1900	2060	2170	2200	2220
3	31	957	1290	1390	1460	1480	1490
7	31	642	862	934	980	997	1010
15	31	428	571	623	661	677	687
30	31	320	415	446	467	475	479
60	31	249	316	336	347	351	353
90	31	207	270	293	310	317	321

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1986

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1270	1870	2660	3160	3740	4160	4550	

Systematic n = 31 historical n = 0
Weighted skew = -0.350

UMPQUA RIVER BASIN

14311200 OLALLA CREEK NEAR TENMILE, OR

LOCATION.--Lat $43^{\circ}02'20''$, long $123^{\circ}32'35''$, in NW 1/4 sec.21, T.29 S., R.7 W., Douglas County, Hydrologic Unit 17100302, on left bank 0.5 mi downstream from Berry Creek, 4.4 mi south of Tenmile, and at mile 11.7.

DRAINAGE AREA.--61.3 mi².

PERIOD OF RECORD.--October 1956 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 749.53 ft above National Geodetic Vertical Datum of 1929. Prior to June 21, 1957, nonrecording gage at site 0.3 mi downstream at datum 7.83 ft lower.

REMARKS.--No regulation. Some diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--17 years, 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,160 ft³/s Jan.3, 1966, gage height, 11.98 ft, from floodmark; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1973

[Short-duration statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	16	0.1	0.0	--	--	--	--
14	16	0.2	0.0	--	--	--	--
30	16	0.2	0.1	0.0	--	--	--
60	16	0.4	0.2	0.1	0.1	--	--
90	16	0.7	0.4	0.3	0.2	--	--
120	16	1.2	0.8	0.6	0.5	--	--
183	16	4.5	2.6	2.0	1.6	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17	2540	3570	4060	4490	--	--
3	17	1820	2490	2800	3080	--	--
7	17	1110	1580	1870	2200	--	--
15	17	709	984	1160	1360	--	--
30	17	513	682	775	877	--	--
60	17	385	501	563	628	--	--
90	17	317	414	465	518	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2970	4430	6550	7990	9860	--	--	

Systematic n = 16 historical n = 54

Generalized 17b skew = -0.089

UMPQUA RIVER BASIN

14311500 LOOKINGGLASS CREEK AT BROCKWAY, OR

LOCATION.--Lat $43^{\circ}07'50''$, long $123^{\circ}27'50''$, in SE 1/4 SE 1/4 sec.13, T.28 S., R.7 W., Douglas County, Hydrologic Unit 17100302, on left bank 1.7 mi northwest of Brockway and at mile 2.85.

DRAINAGE AREA.--158 mi².

PERIOD OF RECORD.--October 1955 to 1987.

REVISED RECORDS.--WSP 2135: Drainage area (former site).

GAGE.--Water-stage recorder. Elevation of gage is 540 ft, from topographic map. Prior to Oct. 5, 1967, water-stage recorder at site 2.3 mi downstream at different datum. Oct. 5, 1967, to Oct. 5, 1976, water-stage recorder, at datum 1.00 ft lower.

REMARKS.--Some regulation by Ben Irving Reservoir 17 mi upstream on Berry Creek, capacity, 11,200 acre-ft since January 1980. Many diversions by pumping for irrigation upstream from station. Discharge not adjusted for storage or release from Ben Irving Reservoir as losses from reservoir at times exceed natural flow.

AVERAGE DISCHARGE.--24 years (water years 1956-79), 282 ft³/s, 204,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft³/s Dec. 26, 1955, gage height, 24.93 ft, site and datum then in use, from rating curve extended above 7,200 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 25.28 ft Dec. 23, 1964 (backwater from South Umpqua River, site and datum then in use); no flow at times each year prior to January 1980, Aug. 6, 7, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1979

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	23	0.3	0.1	0.1	--	--	--
120	23	1.0	0.3	0.1	0.1	0.0	--
183	23	8.0	4.4	3.3	2.7	2.1	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 0-0

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	24	7260	12100	14700	17200	18600	--
3	24	4860	7590	8890	10000	10600	--
7	24	3090	4930	5940	6950	7550	--
15	24	1940	2990	3560	4140	4490	--
30	24	1400	2030	2330	2590	2730	--
60	24	1120	1500	1630	1710	1740	--
90	24	929	1250	1360	1420	1440	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1979

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	--
5780	10500	17700	22600	28900	33400	--	

Systematic n = 24 historical n = 0
Weighted skew = -0.455

UMPQUA RIVER BASIN

14312000 SOUTH UMPQUA RIVER NEAR BROCKWAY, OR

LOCATION.--Lat $43^{\circ}08'00''$, long $123^{\circ}23'50''$, in SW 1/4 sec.15, T.28 S., R.6 W., Douglas County, Hydrologic Unit 17100302, on right bank 10 ft upstream from Winston Bridge on State Highway 99, 2.5 mi northeast of Brockway, 4.2 mi downstream from Lookingglass Creek, and at mile 132.8.

DRAINAGE AREA.--1,670 mi².

PERIOD OF RECORD.--December 1905 to June 1912, October 1923 to September 1926, January 1942 to 1987.
Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1946(M), 1948(M), 1951. WSP 1448: Drainage area. WDR OR 72-1: 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 462.52 ft above National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Prior to June 24, 1949, nonrecording gage at several sites within 400 ft of present site at various datums. June 24, 1949, to Oct. 1, 1970, at datum 461.84 ft National Geodetic Vertical Datum of 1929 (State Highway Department bench mark).

REMARKS.--Regulation from Ben Irving Reservoir, since January 1980, on Berry Creek during summer months. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--53 years (water years 1907-11, 1924-26, 1943-87), 2,877 ft³/s, 23.40 in/yr,
2,084,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s Dec. 23, 1964, gage height, 34.28 ft; minimum discharge, 16 ft³/s Aug. 23, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 21, 1927, reached a stage of about 31.2 ft, present site and datum, discharge (revised), 89,500 ft³/s. Discharge for flood of February 1890, which reached a stage 1.9 ft higher, according to local resident who lived nearby at time of both floods, has been found to be in error and should not be used.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1943-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	78	52	40	32	23	18
3	37	79	53	41	32	24	19
7	37	82	56	43	34	25	20
14	37	86	59	47	37	28	23
30	37	94	67	54	44	35	30
60	37	111	83	70	61	51	45
90	37	128	99	87	79	71	67
120	37	170	134	119	109	99	92
183	37	417	290	242	210	180	163

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1907-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	45	44000	64300	73500	81600	85600	88500
3	45	31700	46400	53300	59500	62700	65200
7	45	22200	32500	37500	42300	44900	47000
15	45	15300	21500	24500	27300	28800	29900
30	45	11400	15500	17400	19000	19900	20500
60	45	8940	11900	13300	14400	14900	15400
90	45	7630	10300	11600	12800	13500	14000

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
31100	48300	71100	85200	101800	113300	124000	

Systematic n = 56 historical n = 82
Weighted skew = -0.473

UMPQUA RIVER BASIN

14312200 DEER CREEK NEAR ROSEBURG, OR

LOCATION.--Lat $43^{\circ}13'10''$, long $123^{\circ}16'35''$, in NE 1/4 SW 1/4 sec.15, T.27 S., R.5 W., Douglas County, Hydrologic Unit 17100302, on right bank 0.6 mi upstream from Shick Creek, 3.3 mi east of Roseburg, and at mile 4.0.

DRAINAGE AREA.--53.2 mi².

PERIOD OF RECORD.--October 1955 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 498.95 ft above National Geodetic Vertical Datum of 1929 (levels by Douglas County Highway Department). Prior to July 3, 1969, nonrecording gage at site 0.5 mi downstream at datum 12.85 ft lower.

REMARKS.--No regulation. Diversions upstream from station for logponds and many small diversions by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--18 years, 77.4 ft³/s, 56,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,910 ft³/s Dec. 28, 1965, gage height, 14.76 ft, from floodmark, from rating curve extended above 2,200 ft³/s on basis of slope-area measurements at gage heights 13.38 and 13.67 ft; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	0.1	0.0	0.0	0.0	--	--
3	17	0.3	0.1	0.0	0.0	--	--
7	17	0.4	0.2	0.1	0.0	--	--
14	17	0.5	0.2	0.2	0.1	--	--
30	17	0.8	0.4	0.3	0.2	--	--
60	17	1.2	0.7	0.6	0.4	--	--
90	17	1.6	1.1	0.9	0.7	--	--
120	17	2.3	1.6	1.4	1.2	--	--
183	17	5.5	3.4	2.7	2.2	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	2190	3160	3570	3900	--	--
3	18	1400	1890	2080	2230	--	--
7	18	836	1200	1400	1590	--	--
15	18	502	741	889	1060	--	--
30	18	379	518	591	666	--	--
60	18	286	378	423	464	--	--
90	18	228	306	349	396	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1951-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2950	3900	5170	6000	7030	--	--	

Systematic n = 18 historical n = 23
Generalized 17b skew = 0.035

UMPQUA RIVER BASIN

14312500 LAKE CREEK NEAR DIAMOND LAKE, OR

LOCATION.--Lat $43^{\circ}11'10''$, long $122^{\circ}09'55''$, in NW 1/4 SW 1/4 sec.30, T.27 S., R.6 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, on right bank 260 ft downstream from outlet of Diamond Lake, 1.6 mi northwest of town of Diamond Lake, and at mile 10.7.

DRAINAGE AREA.--54.9 mi².

PERIOD OF RECORD.--May 1922 to September 1925 (no winter records), October 1926 to September 1929, April, July, August 1930, October 1930 to September 1953, October 1971 to October 1977, February 1978 to September 1984. Prior to October 1971 published as "at Diamond Lake, near Fort Klamath."

GAGE.--Water-stage recorder. Elevation of gage is 5,180 ft, from river-profile map. Prior to May 26, 1931, nonrecording gage at site 300 ft downstream at different datum. May 26, 1931, to Oct. 6, 1933, nonrecording gage at present site and datum.

REMARKS.--Flow regulated by gates and fish racks at lake outlet. No diversion upstream from station.

AVERAGE DISCHARGE.--38 years (water years 1927-29, 1931-53, 1972-77, 1979-84), 57.3 ft³/s, 41,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 336 ft³/s Jan. 1, 1943, gage height, 2.8 ft, from rating curve extended above 120 ft³/s; no flow Aug. 25-27, 1931, Sept. 19, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1935-1984

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	6.4	2.7	1.6	1.1	0.7	0.5
3	30	7.8	3.5	2.2	1.4	0.9	0.6
7	30	9.4	4.6	3.0	2.1	1.3	1.0
14	30	13	6.8	4.6	3.2	2.0	1.5
30	30	17	10	7.7	6.0	4.5	3.6
60	30	23	16	12	9.7	7.3	5.9
90	30	26	19	15	12	9.6	8.0
120	30	31	22	18	16	13	11
183	30	38	28	25	22	19	17

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1984

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	33	123	162	189	226	254	284
3	33	120	157	182	215	241	268
7	33	115	148	171	200	222	244
15	33	105	134	154	179	197	216
30	33	96	120	136	156	171	186
60	33	87	109	124	142	156	170
90	33	82	103	116	133	146	160

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

UMPQUA RIVER BASIN

14315500 NORTH UMPQUA RIVER AT TOKETEE FALLS, OR

LOCATION.--Lat 43°15'50", long 122°25'20", in E 1/2 sec.35, T.26 S., R.3 E., Douglas County, Hydrologic Unit 17100301, 0.1 mi downstream from Clearwater River and 0.5 mi upstream from Toketee Falls.

DRAINAGE AREA.--339 mi².

PERIOD OF RECORD.--July 1925 to September 1945, April 1946 to September 1948.

GAGE.--Water-stage recorder. Datum of gage is 2,373 ft above National Geodetic Vertical Datum of 1929 (levels by California-Oregon Power Co.). Feb. 26, 1908, to July 20, 1909, staff gage, and Dec. 19, 1914, to Sept. 30, 1917, water-stage recorder, at datum 0.50 ft lower.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1926-45, 1947-48), 875 ft³/s.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s Dec. 31, 1942, gage height, 5.90 ft, from rating curve extended above 1,900 ft³/s by logarithmic plotting; minimum, 475 ft³/s Nov. 27-29, Dec. 12, 14, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1927-1948

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	574	532	514	501	487	--
3	20	577	534	515	501	487	--
7	20	581	537	517	503	489	--
14	20	587	542	522	507	492	--
30	20	594	547	527	512	497	--
60	20	603	555	535	520	505	--
90	20	613	561	538	521	505	--
120	20	625	568	542	523	503	--
183	20	670	671	564	538	511	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1926-1948

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	2220	2940	3390	3930	4330	--
3	22	1960	2520	2860	3260	3550	--
7	22	1680	2090	2350	2660	2890	--
15	22	1500	1830	2030	2260	2430	--
30	22	1400	1670	1820	1990	2100	--
60	22	1300	1540	1660	1790	1870	--
90	22	1210	1420	1540	1670	1750	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1926-1948

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1860	2580	3550	4190	4980	5560	--	

Systematic n = 23 historical n = 0
Weighted skew = -0.084

UMPQUA RIVER BASIN

14316500 NORTH UMPQUA RIVER ABOVE COPELAND CREEK, NEAR TOKETEE FALLS, OR

LOCATION.--Lat $43^{\circ}17'45''$, long $122^{\circ}32'10''$, in NW 1/4 sec.24, T.26 S., R.2 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, on left bank 0.6 mi upstream from Copeland Creek, 4.7 mi west of town of Toketee Falls, and at mile 67.2.

DRAINAGE AREA.--475 mi².

PERIOD OF RECORD.--September 1949 to 1987. Monthly discharge only September 1949, published in WSP 1318. Prior to October 1952, published as "above Copeland Creek."

REVISED RECORDS.--WSP 1448: 1953(M), 1954, drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,580 ft, from river-profile map. Prior to Aug. 1, 1976, on right bank at same datum.

REMARKS.--Considerable fluctuation caused by powerplants upstream; flow slightly regulated by Diamond Lake and by Lemolo Lake (station 14313000). No diversion upstream from station.

AVERAGE DISCHARGE.--38 years, 1,510 ft³/s, 1,094,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,700 ft³/s Dec. 22, 1964, gage height, 19.1 ft, from floodmark, from rating curve extended above 7,200 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 370 ft³/s Sept. 30, 1981; minimum daily, 565 ft³/s Sept. 13, 1959.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1951-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	675	612	585	566	547	535
3	37	718	638	603	578	552	536
7	37	757	663	621	590	557	537
14	37	781	689	646	615	582	561
30	37	806	712	668	635	600	578
60	37	835	744	703	671	638	617
90	37	863	769	725	691	656	633
120	37	901	798	750	714	675	651
183	37	1040	899	840	797	754	728

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1950-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38	5890	9740	12900	17700	21800	26400
3	38	4790	7530	9770	13100	16100	19400
7	38	3870	5620	6950	8850	10400	12200
15	38	3170	4230	4970	5930	6670	7430
30	38	2750	3500	3970	4540	4960	5360
60	38	2350	2900	3230	3620	3900	4170
90	38	2190	2650	2920	3210	3410	3590

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1950-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4440	7410	13000	17700	25100	31700	39400	

Systematic n = 38 historical n = 0
Weighted skew = 0.313

UMPQUA RIVER BASIN

14316700 STEAMBOAT CREEK NEAR GLIDE, OR

LOCATION.--Lat 43°21'00", long 122°43'40", in N 1/2 sec.32, T.25-1/2 S., R.1 E., Douglas County, Hydrologic Unit 17100301, in Umpqua National Forest, on right bank in Canton Creek Forest Service Park, 200 ft downstream from Canton Creek, 19 mi northeast of Glide, and at mile 0.5.

DRAINAGE AREA.--227 mi².

PERIOD OF RECORD.--Annual maximum, water year 1956, June 1956 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,128.55 ft above National Geodetic Vertical Datum of 1929 (levels by Federal Highway Administration). October 1955 to June 1956, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--31 years, 743 ft³/s, 44.45 in/yr, 538,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft³/s Dec. 22, 1964, gage height, 25.6 ft, from floodmark, from rating curve extended above 13,000 ft³/s on basis of slope-area measurement at 17.96 ft; minimum discharge, 30 ft³/s Sept. 15-17, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	37	33	32	30	29	29
3	30	37	33	32	31	30	29
7	30	38	34	33	31	30	30
14	30	40	36	34	33	31	31
30	30	43	38	37	35	34	34
60	30	50	43	41	39	37	35
90	30	58	49	46	43	41	40
120	30	74	61	56	52	48	45
183	30	159	120	104	93	81	75

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	10900	15800	18300	20900	22400	23700
3	31	7380	10800	12800	15000	16500	17900
7	31	4900	7040	8320	9790	10800	11700
15	31	3370	4620	5320	6090	6580	7020
30	31	2550	3370	3830	4330	4650	4930
60	31	1990	2640	3020	3440	3730	3990
90	31	1710	2240	2550	2930	3190	3440

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
10300	14600	21400	26400	33400	39100	45100	

Systematic n = 32 historical n = 0
Weighted skew = 0.275

UMPQUA RIVER BASIN

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR

LOCATION.--Lat $43^{\circ}19'40''$, long $123^{\circ}00'00''$, in NW 1/4 sec.12, T.26 S., R.3 W., Douglas County, Hydrologic Unit 17100301, 0.5 mi upstream from Rock Creek and 5 mi northeast of Glide.DRAINAGE AREA.--886 mi².

PERIOD OF RECORD.--July 1924 to September 1945.

GAGE.--Water-stage recorder. Elevation of gage is 770 ft, from river-profile map.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--21 years (water years 1925-45), 2,274 ft³/s, 1,648,000 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s Feb. 20, 1927, gage height, 20.18 ft, from rating curve extended above 18,000 ft³/s by logarithmic plotting; minimum, 521 ft³/s Oct. 16, 1931, gage height, 1.86 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1945

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	675	608	577	553	--	--
3	19	678	614	584	561	--	--
7	19	684	620	590	566	--	--
14	19	694	630	599	576	--	--
30	19	706	643	614	592	--	--
60	19	731	661	630	606	--	--
90	19	751	677	644	619	--	--
120	19	779	702	674	655	--	--
183	19	985	827	765	723	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1945

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20	17000	24700	30700	39500	46900	--
3	20	12700	18400	22900	29500	35100	--
7	20	9420	13200	16000	19900	23000	--
15	20	7070	9630	11500	14100	16200	--
30	20	5520	7180	8310	9760	10900	--
60	20	4450	5840	6870	8300	9470	--
90	20	4040	5290	6180	7370	8310	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1945

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
16000	22300	31800	38700	48100	55600	--	

Systematic n = 21 historical n = 0
Weighted skew = 0.255

UMPOUA RIVER BASIN

14317600 ROCK CREEK NEAR GLIDE, OR

LOCATION.--Lat $43^{\circ}20'45''$, long $122^{\circ}59'30''$, in SE 1/4 SE 1/4 sec. 36, T.25 S., R.3 W., Douglas County, on left bank 0.3 mi downstream from McComas Creek, 5.8 mi northeast of Glide, and at mile 1.2.

DRAINAGE AREA.--97.4 mi².

PERIOD OF RECORD.--Water years 1956-57 (annual maximums only), June 1957 to June 1973.

GAGE.--Water-stage recorder. Elevation of gage is 940 ft, from topographic map. Nov. 8, 1955, to June 16, 1957, nonrecording gage and June 17, 1957, to Sept. 30, 1965, water-stage recorder at site 800 ft downstream at different datum.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--15 years (1957-72), 373 ft³/s, 52.01 in/yr, 270,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,800 ft³/s Dec. 22, 1964, gage height, 20.3 ft, from floodmark, site and datum then in use, from rating curve extended above 5,400 ft³/s on basis of slope-area measurement at gage height 14.83 ft; minimum, 14 ft³/s Sept. 5-11, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	20	17	16	15	--	--
3	15	20	17	16	15	--	--
7	15	21	18	16	15	--	--
14	15	22	19	17	16	--	--
30	15	24	20	19	17	--	--
60	15	27	23	21	20	--	--
90	15	31	26	24	22	--	--
120	15	38	31	29	26	--	--
183	15	79	61	53	47	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1972

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	4410	6950	9240	13000	--	--
3	15	3260	5060	6610	9040	--	--
7	15	2300	3460	4430	5910	--	--
15	15	1640	2350	2850	3520	--	--
30	15	1220	1690	2040	2530	--	--
60	15	995	1350	1610	1970	--	--
90	15	855	1110	1300	1560	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1957-1972

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4300	6660	10500	13500	17700	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.167

UMPQUA RIVER BASIN

14318000 LITTLE RIVER AT PEEL, OR

LOCATION.--Lat 43°15'10", long 123°01'30", in NW 1/4 sec.2, T.27 S., R.3 W., Douglas County, Hydrologic Unit 17100301, on left bank 0.6 mi southeast of Peel, 0.9 mi downstream from Cavitt Creek, and at mile 6.3.

DRAINAGE AREA.--177 mi².

PERIOD OF RECORD.--August 1954 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 828.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Small diversions for rural domestic use and irrigation upstream from station.

AVERAGE DISCHARGE.--33 years, 472 ft³/s, 36.21 in/yr, 342,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s Dec. 11, 1956, gage height, 19.63 ft, from rating curve extended above 5,900 ft³/s on basis of slope-area measurement at gage height 16.55 ft; minimum discharge, 14 ft³/s at times in 1967, 1974, 1977, 1986, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 22, 23, 1953, reached a stage of 20.6 ft, from floodmark, discharge, 22,700 ft³/s, from rating curve extended above 5,900 ft³/s on basis of slope-area measurement at gage height 16.55 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	32	19	16	15	14	13	13
3	32	19	16	15	14	13	13
7	32	20	17	16	15	14	13
14	32	20	18	16	16	15	14
30	32	23	19	18	17	16	15
60	32	27	22	21	19	18	17
90	32	32	27	25	23	22	21
120	32	43	35	31	28	26	24
183	32	101	72	59	51	42	37

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	33	6520	9460	11200	13100	14400	15500
3	33	4610	6610	7840	9290	10300	11200
7	33	3010	4330	5180	6240	7010	7760
15	33	2080	2870	3340	3900	4280	4640
30	33	1590	2110	2410	2760	2990	3210
60	33	1250	1660	1910	2180	2370	2550
90	33	1070	1410	1600	1830	1980	2120

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1954-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6690	9860	14300	17200	20900	23700	26400	

Systematic n = 32 historical n = 34
Weighted skew = -0.156

UMPQUA RIVER BASIN

14318500 NORTH UMPQUA RIVER NEAR GLIDE, OR

LOCATION.--Lat $43^{\circ}18'20''$, long $123^{\circ}07'00''$, in SW 1/4 sec.13, T.26 S., R.4 W., Douglas County, Hydrologic Unit 17100301, about 1.0 mi downstream from Little River and 1.0 mi west of Glide.

DRAINAGE AREA.--1,210 mi².

PERIOD OF RECORD.--September 1915 to March 1919, October 1928 to September 1938.

GAGE.--Staff gage. Elevation of gage is 645 ft, river-profile survey. Sept. 1, 1915, to Oct. 17, 1922, staff gage 150 ft downstream at datum 0.60 ft higher.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--14 years (water years 1916-18, 1929-38), 3,115 ft³/s, 2,257,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft³/s Mar. 19, 1932, gage height, 17.3 ft; from graph based on gage readings; minimum, 552 ft³/s Aug. 27-30, Sept. 27, 1931, gage height, 0.84 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1917-1938

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	716	630	592	--	--	--
3	12	723	635	595	--	--	--
7	12	730	642	603	--	--	--
14	12	742	653	612	--	--	--
30	12	760	671	629	--	--	--
60	12	787	689	644	--	--	--
90	12	818	708	657	--	--	--
120	12	860	742	689	--	--	--
183	12	1180	919	819	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1916-1938

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	27500	36400	42800	51700	--	--
3	14	19200	26300	32200	41000	--	--
7	14	14700	19100	22200	26100	--	--
15	14	10900	13700	15600	18100	--	--
30	14	8570	10200	11000	12000	--	--
60	14	6980	8320	9050	9830	--	--
90	14	6180	7420	8070	8730	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1910-1938

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
26600	35400	47600	55800	66200	--	--	

Systematic n = 17 historical n = 29
Generalized 17b skew = 0.114

UMPQUA RIVER BASIN

14319200 SUTHERLIN CREEK AT SUTHERLIN, OR

LOCATION.--Lat $43^{\circ}23'20''$, long $123^{\circ}18'10''$, in SW 1/4 sec.16, T.25 S., R.5 W., Douglas County, Hydrologic Unit 17100301, on right bank at downstream side of Waite Street bridge in Sutherlin, 1.5 mi upstream from Cooper Creek, and at mile 8.4.

DRAINAGE AREA.--16.4 mi².

PERIOD OF RECORD.--October 1955 to September 1967.

GAGE.--Staff gage read once or twice daily and crest-stage gage. Datum of gage is 511.46 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1963, at datum 1.00 ft higher.

REMARKS.--No regulation. A few small diversions by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--12 years, 25.9 ft³/s, 18,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,250 ft³/s Feb. 10, 1961, gage height, 7.64 ft, datum then in use, from rating curve extended above 750 ft³/s by logarithmic plotting; maximum gage height, 8.24 ft Dec. 21, 1957, datum then in use; no flow for several months each year.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1967

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	11	0.8	0.2	0.1	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	864	1240	1490	--	--	--
3	12	570	737	816	--	--	--
7	12	336	441	498	--	--	--
15	12	198	267	312	--	--	--
30	12	135	180	210	--	--	--
60	12	94	124	148	--	--	--
90	12	73	96	115	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1967

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
900	1310	1910	2340	--	--	--	

Systematic n = 12 historical n = 0
Generalized 17b skew = 0.043

UMPQUA RIVER BASIN

14319500 NORTH UMPQUA RIVER AT WINCHESTER, OR

LOCATION.--Lat $43^{\circ}16'20''$, long $123^{\circ}24'40''$, in NW 1/4 NE 1/4 sec.33, T.26 S., R.6 W., Douglas County, Hydrologic Unit 17100301, on left bank 400 ft downstream from county bridge, 3.0 mi west of Winchester, and at mile 1.8.

DRAINAGE AREA.--1,344 mi².

PERIOD OF RECORD.--October 1908 to December 1913, October 1923 to September 1929, August 1954 to 1987.
Prior to December 1908, monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1448: 1909-12, drainage area. WDR OR-72-1: 1965 (M).

GAGE.--Water-stage recorder. Datum of gage is 372.97 ft above National Geodetic Vertical Datum of 1929 (Douglas County Road Department bench mark). Oct. 1, 1908, to Dec. 31, 1913, and Oct. 1, 1923, to Sept. 30, 1929, nonrecording gage at site 4.8 mi upstream at different datums. Aug. 27, 1954, to Aug. 12, 1965, water-stage recorder on right bank at same datum.

REMARKS.--Diurnal fluctuation caused by upstream powerplants; slight regulation by Lemolo Lake and Diamond Lake. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--44 years, 3,776 ft³/s, 38.15 in/yr, 2,736,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150,000 ft³/s Dec. 22, 1964, gage height, 34.2 ft, from floodmark; minimum discharge, 235 ft³/s Aug. 27, 1987, result of regulation at Winchester Dam 5.2 mi upstream; minimum daily, 578 ft³/s Sept. 14, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of 23.2 ft, from floodmark, at site 4.8 mi upstream at different datum, discharge, 88,000 ft³/s. Flood of Nov. 23, 1953, reached a stage of 28.4 ft, from floodmarks, present site and datum, discharge, 93,300 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1910-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	749	670	637	612	587	572
3	41	793	704	664	635	605	586
7	41	833	733	689	655	620	598
14	41	859	759	714	680	644	622
30	41	891	788	740	703	664	640
60	41	949	836	782	740	695	666
90	41	1010	883	822	773	722	688
120	41	1100	951	881	828	771	735
183	41	1520	1230	1100	1000	902	841

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1909-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	44	38700	56900	67600	79500	87400	94400
3	44	27700	41000	49600	60200	67800	75200
7	44	18900	27500	33300	40500	46000	51300
15	44	13400	18700	22100	26300	29400	32500
30	44	10400	13900	16000	18700	20600	22400
60	44	8280	11000	12800	15000	16600	18200
90	44	7260	9480	10900	12600	13800	15100

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
32400	48000	71000	87200	108700	125300	142300	

Systematic n = 45 historical n = 0
Weighted skew = 0.010

UMPQUA RIVER BASIN

14319900 CALAPOOYA CREEK AT NONPAREIL, OR

LOCATION.--Lat $43^{\circ}25'04''$, long $123^{\circ}09'13''$, in SW 1/4 SE 1/4 sec.3, T.25 S., R.4 W., Douglas County, Hydrologic Unit 17100303, on left bank 0.3 mi upstream from county road bridge, 0.9 mi northeast of Nonpareil, and at mile 26.7.

DRAINAGE AREA.--88.6 mi².

PERIOD OF RECORD.--July 1976 to September 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 699.22 ft above National Geodetic Vertical Datum of 1929 (Douglas County Survey bench mark).

REMARKS.--Only minor diversions by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--11 years, 205 ft³/s, 31.42 in/yr, 148,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,640 ft³/s Dec. 6, 1981, gage height, 11.16 ft; minimum discharge, 3.7 ft³/s Sept. 23-25, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	10	8.3	6.1	5.3	--	--	--	
3	10	8.5	6.3	5.5	--	--	--	
7	10	9.4	6.9	5.9	--	--	--	
14	10	10	7.7	6.7	--	--	--	
30	10	11	8.9	8.0	--	--	--	
60	10	14	11	10	--	--	--	
90	10	17	15	14	--	--	--	
120	10	24	20	18	--	--	--	
183	10	52	43	40	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1977-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	11	2830	3650	3890	--	--	--	
3	11	2060	2430	2500	--	--	--	
7	11	1320	1680	1800	--	--	--	
15	11	918	1140	1230	--	--	--	
30	11	701	906	996	--	--	--	
60	11	537	701	777	--	--	--	
90	11	462	596	664	--	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1977-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2930	3860	5110	5940	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = 0.108

UMPQUA RIVER BASIN

14320700 CALAPOOYA CREEK NEAR OAKLAND, OR

LOCATION.--Lat $43^{\circ}24'10''$, long $123^{\circ}21'45''$, in NW 1/4 sec.13, T.25 S., R.6 W., Douglas County, Hydrologic Unit 17100303, near center of span on downstream side of highway bridge, 0.9 mi downstream from Williams Creek, 2.5 mi northwest of Sutherlin, 3.5 mi southwest of Oakland, and at mile 10.1

DRAINAGE AREA.--210 mi².

PERIOD OF RECORD.--October 1955 to September 1973, October 1986 to September 1987. Records for the years 1974-86 are available at the Douglas County Water Resources Dept. in Roseburg.

GAGE.--Water-stage recorder. Datum of gage is 371.26 ft above National Geodetic Vertical Datum of 1929. Prior to June 22, 1968, nonrecording gage at same site and datum.

REMARKS.--Diversion upstream from station for municipal supply of cities of Sutherlin and Oakland. Small diversions by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--19 years (water years 1956-73, 1987), 486 ft³/s, 31.43 in/yr, 352,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft³/s Nov. 23, 1961, gage height, 21.55 ft; no flow Sept. 9-11, 1966.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	5.2	2.6	1.5	0.0	--	--
3	17	5.8	2.9	1.7	0.0	--	--
7	17	6.4	3.3	2.1	1.4	--	--
14	17	7.2	4.3	3.1	2.3	--	--
30	17	8.4	5.2	3.9	2.9	--	--
60	17	12	7.2	5.3	4.0	--	--
90	17	14	9.8	7.8	6.3	--	--
120	17	22	15	12	10	--	--
183	17	58	38	31	26	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1973

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	8540	12300	14400	16400	--	--
3	18	6170	8550	9720	10800	--	--
7	18	4070	5770	6790	7960	--	--
15	18	2730	3800	4440	5200	--	--
30	18	2010	2680	3090	3580	--	--
60	18	1570	2080	2400	2800	--	--
90	18	1330	1710	1930	2190	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
7730	12200	19200	24300	31400	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.018

UMPQUA RIVER BASIN

14321000 UMPQUA RIVER NEAR ELKTON, OR

LOCATION.--Lat $43^{\circ}35'10''$, long $123^{\circ}33'15''$, in NW1/4 sec.8, T.23 S., R.7 W., Douglas County, Hydrologic Unit 17100303, on left bank 3.5 mi south of Elkton, 8.3 mi upstream from Elk Creek, and at mile 56.9.

DRAINAGE AREA.--3,683 mi².

PERIOD OF RECORD.--October 1905 to 1987.

REVISED RECORDS.--WSP 1184: 1927(M), 1938(M), 1943(M), 1946(M). WSP 1448: 1911-13, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.42 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1972, at site 2,400 ft downstream at same datum. See WSP 1931 or 2135 for history of changes prior to June 29, 1972.

REMARKS.--Regulation by powerplants on North Umpqua River ordinarily does not affect discharge at this station. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--82 years, 7,512 ft³/s, 27.70 in/yr, 5,442,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 265,000 ft³/s Dec. 23, 1964, gage height, 51.95 ft, from floodmarks; minimum discharge observed, 640 ft³/s July 18, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least December 1861, that of Dec. 23, 1964.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1907-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	81	971	845	782	732	678	643
3	81	986	857	791	739	682	646
7	81	1000	869	803	749	691	654
14	81	1020	882	815	762	704	667
30	81	1050	906	835	778	717	678
60	81	1110	954	876	814	747	704
90	81	1180	1010	918	847	771	723
120	81	1300	1080	979	900	816	764
183	81	2070	1560	1340	1170	1010	915

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	82	83200	122100	145700	173100	191800	209200
3	82	63300	91900	109100	129100	142700	155300
7	82	45400	63500	74200	86300	94300	101700
15	82	32200	43500	49700	56600	61000	64900
30	82	24600	32400	36500	40800	43500	45800
60	82	19400	25500	28800	32300	34600	36600
90	82	16900	22100	25000	28300	30500	32400

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
65300	96000	140000	170000	208600	237700	267000	

Systematic n = 80 historical n = 126
Weighted skew = -0.080

UMPQUA RIVER BASIN

14322000 ELK CREEK NEAR DRAIN, OR

LOCATION.--Lat 43°38'30", long 123°17'50", in NE 1/4 SW 1/4 sec.21, T.22 S., R.5 W., Douglas County, Hydrologic Unit 17100303, on right bank at downstream side of highway bridge, 0.2 mi downstream from Yoncalla Creek, 1.7 mi southeast of Drain, and at mile 26.2.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--October 1955 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 305.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Small diversions by pumping for irrigation upstream from station. Municipal supply for town of Yoncalla is diverted from Wilson Creek upstream from station.

AVERAGE DISCHARGE.--18 years, 222 ft³/s, 29.90 in/yr, 165,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s Feb. 10, 1961, gage height, 23.7 ft, from floodmark, from rating curve extended above 7,500 ft³/s; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1957-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	0.2	0.0	0.0	0.0	--	--
3	18	0.3	0.1	0.0	0.0	--	--
7	18	0.5	0.2	0.1	0.0	--	--
14	18	0.7	0.4	0.2	0.1	--	--
30	18	1.4	0.6	0.3	0.1	--	--
60	18	2.1	1.1	0.7	0.5	--	--
90	18	3.1	1.8	1.3	1.0	--	--
120	18	5.3	3.3	2.5	1.9	--	--
183	18	16	9.6	7.5	6.1	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1956-1979

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	4380	6880	8530	10500	--	--
3	19	3080	4690	5680	6830	--	--
7	19	2070	3070	3710	4470	--	--
15	19	1360	1950	2330	2790	--	--
30	19	971	1330	1570	1860	--	--
60	19	738	1000	1180	1390	--	--
90	19	611	813	941	1100	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1956-1973

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3580	6110	10500	14000	19100	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.060

TENMILE CREEK BASIN

14323200 TENMILE CREEK NEAR LAKESIDE, OR

LOCATION.--Lat $43^{\circ}34'40''$, long $124^{\circ}11'30''$, near center of sec.13, T.23 S., R.13 W., Coos County, Hydrologic Unit 17100304, in Siuslaw National Forest, near left bank on downstream side of highway bridge, 200 ft upstream from Eel Creek, 0.8 mi upstream from Saunders Creek, and 1.0 mi west of Lakeside. Records include flow of Eel and Saunders Creeks.

DRAINAGE AREA.--About 87 mi^2 at measuring section 1.2 mi downstream.

PERIOD OF RECORD.--August 1957 to September 1976.

GAGE.--Water-stage recorder. Auxiliary nonrecording gage 1.4 mi upstream from base gage, read twice daily. Datum of both gages is National Geodetic Vertical Datum of 1929.

REMARKS.--Flow affected by natural storage in Tenmile Lake and other lakes tributary to Eel and Saunders Creeks. No diversion upstream from station. Records given herein are for measuring site.

AVERAGE DISCHARGE.--19 years (water years 1958-76), $338 \text{ ft}^3/\text{s}$, 244,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, $3,330 \text{ ft}^3/\text{s}$ Dec. 26, 1964, elevation 16.46 ft at base gage, 18.78 ft at auxiliary gage; minimum, $2.0 \text{ ft}^3/\text{s}$ Aug. 29, Sept. 2, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1959-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	8.0	4.6	3.3	2.5	--	--
3	18	8.2	4.6	3.4	2.6	--	--
7	18	8.5	4.9	3.6	2.8	--	--
14	18	9.1	5.2	3.9	3.0	--	--
30	18	11	6.5	4.8	3.8	--	--
60	18	13	8.0	6.4	5.3	--	--
90	18	16	10	8.1	6.8	--	--
120	18	22	15	12	9.7	--	--
183	18	53	36	30	25	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1958-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	2210	2830	3140	3450	--	--
3	19	2120	2710	3010	3310	--	--
7	19	1870	2380	2650	2930	--	--
15	19	1480	1870	2080	2310	--	--
30	19	1150	1420	1580	1760	--	--
60	19	954	1190	1330	1490	--	--
90	19	842	1050	1170	1300	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1958-1976

DISCHARGE, IN ft^3/s , FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1630	2220	2910	3300	3730	--	--	

Systematic n = 19 historical n = 0
Weighted skew = -0.511

COOS RIVER BASIN

14324500 WEST FORK MILLICOMA RIVER NEAR ALLEGANY, OR

LOCATION.--Lat $43^{\circ}28'35''$, long $124^{\circ}03'20''$, in SW 1/4 NW 1/4 sec.19, T.24 S., R.11 W., Coos County, Hydrologic Unit 17100304, on left bank at highway bridge, 40 ft upstream from Daggett Creek, 3.8 mi north of Allegany, and at mile 6.82.

DRAINAGE AREA.--46.9 mi², at cableway 300 ft downstream.

PERIOD OF RECORD.--September 1954 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 76.95 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Only minor diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1955-81), 249 ft³/s, 72.10 in/yr, 180,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft³/s Nov. 24, 1960, gage height, 15.86 ft; minimum, 1.8 ft³/s Sept. 5, 9, 1965, Sept. 8-10, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	3.6	2.4	2.0	1.7	1.5	1.3
3	26	3.6	2.5	2.1	1.8	1.5	1.3
7	26	3.9	2.7	2.2	1.9	1.6	1.5
14	26	4.1	2.9	2.4	2.1	1.8	1.6
30	26	4.9	3.4	2.9	2.5	2.1	1.9
60	26	6.6	4.4	3.6	3.1	2.6	2.4
90	26	8.9	5.8	4.9	4.3	3.8	3.5
120	26	12	8.3	7.0	6.1	5.4	5.0
183	26	34	23	18	15	12	9.8

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27	3680	4940	5630	6360	6820	7220
3	27	2770	3630	4100	4600	4930	5210
7	27	1910	2490	2820	3200	3450	3690
15	27	1260	1610	1820	2080	2270	2450
30	27	942	1170	1310	1470	1580	1690
60	27	731	939	1060	1210	1300	1400
90	27	645	808	889	971	1020	1060

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1955-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3620	5270	7240	8360	9600	10400	11100

Systematic n = 27 historical n = 0
Weighted skew = -0.595

COQUILLE RIVER BASIN

14324600 SOUTH FORK COQUILLE RIVER ABOVE PANTHER CREEK, NEAR ILLAHE, OR

LOCATION.--Lat 42°45'30", long 123°59'10", in SE 1/4 sec.28, T.32 S., R.11 W., Coos County, Hydrologic Unit 17100304, on left bank 0.7 mi upstream from Panther Creek, 10.0 mi northeast of Illahe, and at mile 88.5.

DRAINAGE AREA.--31.2 mi².

PERIOD OF RECORD.--October 1956 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 2,117.30 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 144 ft³/s, 62.68 in/yr, 104,300 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,840 ft³/s Dec. 22, 1964, gage height, 17.07 ft, from floodmarks, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement at gage height 12.75 ft; minimum, 0.94 ft³/s Sept. 28, 1970.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	1.5	1.2	1.1	--	--	--
3	13	1.5	1.2	1.2	--	--	--
7	13	1.6	1.4	1.3	--	--	--
14	13	1.7	1.4	1.3	--	--	--
30	13	2.0	1.6	1.5	--	--	--
60	13	2.6	2.1	1.9	--	--	--
90	13	3.7	3.0	2.6	--	--	--
120	13	5.6	4.3	3.7	--	--	--
183	13	16	10	8.0	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	2350	3100	3870	5210	--	--
3	14	1760	2370	2930	3830	--	--
7	14	1220	1650	1990	2470	--	--
15	14	812	1030	1180	1370	--	--
30	14	581	706	793	908	--	--
60	14	445	545	613	702	--	--
90	14	375	456	509	575	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1957-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2850	3780	4900	5560	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = -0.296

COQUILLE RIVER BASIN

14324700 SOUTH FORK COQUILLE RIVER NEAR ILLAHE, OR

LOCATION.--Lat 42°43'30", long 124°00'40", in NW 1/4 sec.16, T.33 S., R.11 W., Coos County, Hydrologic Unit 17100305, in Siskiyou National Forest, on left bank 1.0 mi downstream from Lockhart Creek, 7.0 mi north of Illahe, and at mile 85.1.

DRAINAGE AREA.--40.6 mi², at measuring site 1.2 mi upstream from gage.

PERIOD OF RECORD.--October 1956 to September 1974.

GAGE.--Water-stage recorder. Datum of gage is 1,871.04 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion upstream from station. Records given herein are for measuring site.

AVERAGE DISCHARGE.--18 years, 199 ft³/s, 66.56 in/yr, 144,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s Dec. 22, 1964, gage height, 11.80 ft, from rating curve extended above 3,000 ft³/s, on basis of slope-area measurement at gage height 9.54 ft; minimum, 1.2 ft³/s Sept. 27-29, 1967, Sept. 28-30, 1974.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	2.1	1.6	1.5	1.4	--	--
3	17	2.1	1.7	1.5	1.4	--	--
7	17	2.3	1.8	1.6	1.5	--	--
14	17	2.5	1.9	1.7	1.6	--	--
30	17	2.8	2.3	2.0	1.9	--	--
60	17	3.8	3.0	2.7	2.5	--	--
90	17	5.1	4.0	3.5	3.2	--	--
120	17	7.3	5.5	4.7	4.2	--	--
183	17	20	13	11	9.1	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1974

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	3260	4540	5580	7120	--	--
3	18	2430	3340	4050	5100	--	--
7	18	1670	2210	2600	3130	--	--
15	18	1090	1360	1530	1740	--	--
30	18	775	947	1060	1210	--	--
60	18	607	749	842	958	--	--
90	18	508	626	704	803	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1957-1974

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3750	4870	6440	7510	8890	--	--

Systematic n = 18 historical n = 0
Weighted skew = 0.244

COQUILLE RIVER BASIN

14324900 SOUTH FORK COQUILLE RIVER NEAR POWERS, OR

LOCATION.--Lat 42°47'05", long 124°02'25", in SW 1/4 SW 1/4 sec.18, T.32 S., R.11 W., Coos County, Hydrologic Unit 17100305, Siskiyou National Forest, on right bank 0.8 mi upstream from Hall Creek, 7.0 mi southeast of Powers, and at mile 76.1.

DRAINAGE AREA.--93.2 mi².

PERIOD OF RECORD.--October 1956 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 585.32 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 514 ft³/s, 74.89 in/yr, 372,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,600 ft³/s Dec. 22, 1964, gage height, 23.00 ft, from floodmarks, from rating curve extended above 9,300 ft³/s on basis of slope-area measurement of peak flow; minimum, 6.5 ft³/s Oct. 3-5, 1960.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	13	13	9.7	8.2	--	--	--
3	13	13	9.9	8.5	--	--	--
7	13	13	10	8.9	--	--	--
14	13	14	11	9.3	--	--	--
30	13	15	12	11	--	--	--
60	13	17	15	14	--	--	--
90	13	22	18	17	--	--	--
120	13	30	24	22	--	--	--
183	13	71	48	39	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1970

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14	7900	10900	14100	20000	--	--
3	14	5960	8060	10200	13900	--	--
7	14	4240	5800	7080	9010	--	--
15	14	2870	3740	4350	5180	--	--
30	14	2030	2520	2890	3400	--	--
60	14	1560	1950	2230	2610	--	--
90	14	1320	1620	1830	2090	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1957-1970

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
9940	13100	16800	19000	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = -0.300

COQUILLE RIVER BASIN

14325000 SOUTH FORK COQUILLE RIVER AT POWERS, OR

LOCATION.--Lat $42^{\circ}53'30''$, long $124^{\circ}04'10''$, in SE 1/4 sec.12, T.31 S., R.12 W., Coos County, Hydrologic Unit 17100305, on left bank 0.6 mi downstream from highway bridge at Powers, 0.9 mi upstream from Woodward Creek, and at mile 64.5.

DRAINAGE AREA.--169 mi².

PERIOD OF RECORD.--September 1916 to September 1926, October 1928 to 1987.

REVISED RECORDS.--WSP 1184: 1946(M). WSP 1448: 1917-18(M), 1919, 1920(M), 1925.

GAGE.--Water-stage recorder. Datum of gage is 197.42 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1938, nonrecording gage at various sites within 1 mi of present site at different datums.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--68 years (water years 1917-26, 1930-87), 794 ft³/s, 63.80 in/yr, 575,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,900 ft³/s Dec. 22, 1964, gage height, 26.51 ft, from floodmarks, from rating curve extended above 19,000 ft³/s on basis of contracted-opening measurement at gage height 18.14 ft and slope-area measurement of peak flow; minimum discharge, 8.8 ft³/s Sept. 28, 1987.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1918-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	67	19	15	14	13	11	11
3	67	20	16	14	13	12	11
7	67	20	16	14	13	12	11
14	67	21	17	15	14	13	12
30	67	23	19	17	16	14	14
60	67	28	22	19	17	16	15
90	67	33	25	22	20	18	17
120	67	44	32	27	24	21	20
183	67	109	70	55	45	36	30

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1917-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	68	11000	15500	18600	22800	25900	29200
3	68	7860	11300	13900	17300	20100	23000
7	68	5600	7840	9380	11400	12900	14500
15	68	3970	5320	6170	7230	7990	8740
30	68	2950	3870	4400	5020	5430	5820
60	68	2310	3000	3390	3820	4110	4380
90	68	1980	2570	2900	3280	3530	3760

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1917-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
10400	15100	21700	26200	31900	36200	40500	

Systematic n = 69 historical n = 0
Weighted skew = -0.076

COQUILLE RIVER BASIN

14326500 MIDDLE FORK COQUILLE RIVER NEAR MYRTLE POINT, OR

LOCATION.--Lat 43°01'30", long 124°05'20", in NW 1/4 SE 1/4 sec.26, T.29 S., R.12 W., Coos County, Hydrologic Unit 17100305, 0.3 mi downstream from Indian Creek, 2 mi upstream from South Fork, and 3.8 mi southeast of Myrtle Point.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--October 1930 to September 1946.

GAGE.--Water-stage recorder. Datum of gage is 41.20 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1930, staff gage at same site and datum.

REMARKS.--No diversion upstream from station. Flow regulated during winter and spring months by operation of log ponds.

AVERAGE DISCHARGE.--16 years, 743 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,600 ft³/s Jan. 2, 1933, gage height, 22.5 ft, from rating curve extended above 9,000 ft³/s; minimum daily, 1.0 ft³/s July 16, 17, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1932-1946

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	12	5.9	3.5	2.1	--	--
3	15	12	6.7	4.2	2.6	--	--
7	15	13	7.3	5.2	3.9	--	--
14	15	13	8.0	6.1	4.8	--	--
30	15	14	11	9.2	8.3	--	--
60	15	17	12	11	10	--	--
90	15	20	15	13	11	--	--
120	15	29	20	17	14	--	--
183	15	79	48	36	28	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1946

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	10500	14400	16900	19800	--	--
3	16	7530	10300	12100	14200	--	--
7	16	5700	7760	8890	10100	--	--
15	16	4350	5880	6640	7380	--	--
30	16	3090	3950	4380	4790	--	--
60	16	2470	3160	3500	3850	--	--
90	16	2100	2740	3080	3430	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1946

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
10100	14700	20600	24400	28900	--	--	

Systematic n = 16 historical n = 22
Generalized 17b skew = -0.298

COQUILLE RIVER BASIN

14326800 NORTH FORK COQUILLE RIVER NEAR FAIRVIEW, OR

LOCATION.--Lat 43°11'03", long 124°04'33", in SW 1/4 SE 1/4 sec.35, T.27 S., R.12 W., Coos County, Hydrologic Unit 17100305, on right bank 0.2 mi downstream from Lost Creek, 2.2 mi south of Fairview, and at mile 22.2.

DRAINAGE AREA.--73.9 mi².

PERIOD OF RECORD.--October 1963 to September 1981.

REVISED RECORDS.--WRD Oreg. 1972: 1964-67, 1969-71(M,P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 79.72 ft above National Geodetic Vertical Datum of 1929 (from stadia survey). Prior to Aug. 17, 1978, at site 0.5 mi downstream at datum 16.38 ft lower with supplementary water-stage recorder and Crest-stage gage at present site used during periods of backwater.

REMARKS.--No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--18 years, 281 ft³/s, 51.57 in/yr, 203,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,760 ft³/s Mar. 2, 1972; maximum gage height, 18.80 ft, previous site and datum, Jan. 8, 1976, backwater from ponding in valley below; maximum gage height unaffected by backwater, 18.03 ft, previous site and datum, Jan. 8, 1976; minimum discharge, 2.0 ft³/s Sept. 9, 10, 1967.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	17	4.1	2.9	2.4	2.1	--	--	
3	17	4.2	3.0	2.5	2.2	--	--	
7	17	4.5	3.3	2.8	2.6	--	--	
14	17	5.0	3.6	3.1	2.8	--	--	
30	17	5.6	4.1	3.6	3.3	--	--	
60	17	7.8	5.4	4.6	4.1	--	--	
90	17	9.9	6.9	5.9	5.3	--	--	
120	17	14	9.7	8.4	7.5	--	--	
183	17	34	25	21	18	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	18	3340	4720	5530	6440	--	--	
3	18	2700	3620	4120	4630	--	--	
7	18	2030	2720	3130	3590	--	--	
15	18	1390	1830	2110	2420	--	--	
30	18	1080	1370	1530	1690	--	--	
60	18	850	1120	1260	1400	--	--	
90	18	746	974	1090	1190	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1964-1982

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3030	4660	6950	8450	10300	--	--

Systematic n = 19 historical n = 0
Generalized 17b skew = -0.280

COQUILLE RIVER BASIN

14327000 NORTH FORK COQUILLE RIVER NEAR MYRTLE POINT, OR

LOCATION.--Lat 43°04'15", long 124°06'20", in SE 1/4 sec.10, T.29 S., R.12 W., Coos County, Hydrologic Unit 17100305, near center of span on downstream side of highway bridge 1.6 mi northeast of Myrtle Point, and at mile 4.1.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--December 1928 to September 1946, October 1963 to September 1968.

GAGE.--Wire-weight gage read once daily and crest-stage gage. Datum of gage is 2.79 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, chain gage at present site and different datum. Oct. 1, 1930, to Sept. 30, 1946, water-stage recorder at site 4.5 mi upstream at datum 8.15 ft higher.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1930-46, 1964-68), 945 ft³/s, 684,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,400 ft³/s Dec. 23, 1964, gage height, 37.67 ft; minimum observed, 1.2 ft³/s Aug. 12, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1968

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	22	13	9.1	6.7	4.6	--
3	21	22	13	9.9	7.5	5.4	--
7	21	24	14	11	8.4	6.2	--
14	21	25	15	12	9.2	7.0	--
30	21	27	18	14	12	9.4	--
60	21	32	22	19	16	14	--
90	21	38	28	24	22	20	--
120	21	51	37	32	29	26	--
183	21	122	84	70	61	52	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1930-1968

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	8920	13800	18600	26800	35000	--
3	22	7530	10900	13900	18700	23200	--
7	22	6220	8620	10400	12900	14800	--
15	22	4930	6620	7590	8660	9370	--
30	22	3600	4680	5300	5990	6450	--
60	22	2890	3690	4120	4600	4900	--
90	22	2560	3270	3650	4060	4330	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1929-1968

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
8230	12800	20700	27000	36000	43700	--	

Systematic n = 24 historical n = 0
Weighted skew = 0.247

ROGUE RIVER BASIN

14327500 ROGUE RIVER ABOVE BYBEE CREEK, NEAR UNION CREEK, OR

LOCATION.--Lat 42°56'05", long 122°25'15", in NE 1/4 sec.26, T.30 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on left bank 700 ft upstream from Bybee Creek, 2.3 mi northeast of village of Union Creek, and at mile 186.1 (river-profile survey).

DRAINAGE AREA.--156 mi².

PERIOD OF RECORD.--January 1930 to September 1952.

GAGE.--Water-stage recorder. Elevation of gage is 3,465 ft, from river-profile map. Prior to Nov. 23, 1934, water-stage recorder at site 200 ft downstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1931-52), 498 ft³/s, 360,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,430 ft³/s Nov. 29, 1942 and Dec. 28, 1945, gage height, 7.84 ft, from rating curve extended above 1,600 ft³/s by logarithmic plotting; minimum daily, 180 ft³/s Jan. 7, 1937.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1931-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	254	217	200	188	175	--
3	22	260	224	208	196	184	--
7	22	264	230	215	203	192	--
14	22	270	235	220	208	196	--
30	22	274	239	224	212	200	--
60	22	282	245	228	215	201	--
90	22	290	250	232	218	204	--
120	22	298	256	238	224	210	--
183	22	329	276	255	240	225	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1931-1952

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	1850	2560	3030	3640	4110	--
3	22	1540	2050	2380	2770	3060	--
7	22	1300	1680	1920	2230	2450	--
15	22	1160	1480	1670	1900	2060	--
30	22	1050	1320	1470	1650	1780	--
60	22	934	1140	1240	1350	1420	--
90	22	824	988	1080	1170	1230	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1931-1952

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1670	2230	3060	3660	4450	5080	--	

Systematic n = 22 historical n = 0
Weighted skew = 0.324

ROGUE RIVER BASIN

14328000 ROGUE RIVER ABOVE PROSPECT, OR

LOCATION.--Lat 42°46'30", long 122°29'55", in SE 1/4 NE 1/4 sec.19, T.32 S., R.3 E., Jackson County, Hydrologic Unit 17100307, Rogue River National Forest, on left bank 1.4 mi upstream from Pacific Power and Light Co. diversion dam, 1.8 mi northwest of Prospect, and at mile 173.4.

DRAINAGE AREA.--312 mi².

PERIOD OF RECORD.--January 1908 to February 1912, October 1923 to 1987. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1925, published as "near Prospect."

REVISED RECORDS.--WSP 1248: 1925, 1927(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,620 ft, from river-profile map. Prior to Feb. 17, 1912, nonrecording gage at several sites within a few hundred feet upstream at various datums.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--67 years (water years 1909-11, 1924-87), 829 ft³/s, 36.08 in/yr, 600,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft³/s Dec. 22, 1964, gage height, 11.55 ft, from floodmark, from rating curve extended above 9,000 ft³/s on basis of slope-area measurement at 16,600 ft³/s; minimum observed discharge, 200 ft³/s Nov. 20, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1909-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	65	366	303	273	251	227	213
3	65	375	312	282	259	235	220
7	65	379	317	288	266	242	227
14	65	385	322	292	270	246	231
30	65	394	329	299	275	251	236
60	65	405	338	307	284	259	243
90	65	417	347	314	289	262	246
120	65	433	358	323	297	270	253
183	65	511	410	366	333	299	278

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1909-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	66	4110	6400	8060	10300	12100	13900
3	66	3280	5010	6290	8060	9490	11000
7	66	2580	3680	4450	5470	6250	7050
15	66	2080	2770	3210	3740	4110	4480
30	66	1760	2260	2550	2870	3100	3300
60	66	1490	1860	2070	2290	2440	2570
90	66	1340	1640	1800	1970	2090	2180

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1909-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3050	4740	7570	9780	13000	15600	18600	

Systematic n = 66 historical n = 0
Weighted skew = 0.221

UPPER ROGUE RIVER BASIN

14330000 ROGUE RIVER BELOW PROSPECT, OR

LOCATION.--Lat $42^{\circ}43'50''$, long $122^{\circ}30'55''$, in SE 1/4 NW 1/4 sec.6, T.33 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on right bank 600 ft downstream from Prospect No. 1 powerplant, 1.4 mi downstream from Mill Creek, 2.0 mi southwest of Prospect, 2.1 mi upstream from South Fork Rogue River, and at mile 169.4.

DRAINAGE AREA.--379 mi².

PERIOD OF RECORD.--August 1913 to September 1930, October 1968 to 1987.

REVISED RECORDS.--WSP 1518: 1914-23, 1924(M), 1925, 1928.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,964.56 ft above National Geodetic Vertical Datum of 1929 (Pacific Power and Light Co. bench mark). Prior to September 1927 nonrecording gage at site 1,000 ft upstream, above powerplants, at different datum, also concurrent nonrecording gage on headrace to obtain equivalent combined flow.

REMARKS.--Fluctuations caused by powerplant 600 ft upstream from station. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--36 years, 1,299 ft³/s, 941,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s Jan. 18, 1971, gage height, 7.62 ft, from high-water mark; minimum discharge, 205 ft³/s Sept. 17, 22, 24, 1980, caused by regulation of diversion gates upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 12.4 ft Dec. 22, 1964, from floodmarks, discharge, 25,000 ft³/s, from records for station upstream from Prospect (station 14328000) and for station downstream from South Fork Rogue River near Prospect (station 14335000) after adjusting for estimated intervening tributary inflow.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	845	732	683	647	--	--
3	18	870	753	700	659	--	--
7	18	889	767	710	667	--	--
14	18	913	785	724	678	--	--
30	18	940	809	748	700	--	--
60	18	968	839	779	733	--	--
90	18	996	865	804	756	--	--
120	18	1030	892	830	783	--	--
183	18	1140	991	925	875	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	5100	7410	8810	10400	11500	--
3	22	4210	6000	7090	8380	9270	--
7	22	3380	4590	5310	6130	6690	--
15	22	2820	3630	4090	4600	4940	--
30	22	2450	3060	3410	3800	4060	--
60	22	2140	2610	2870	3150	3340	--
90	22	2010	2440	2670	2920	3080	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

ROGUE RIVER BASIN

14330500 SOUTH FORK ROGUE RIVER ABOVE IMNAHA CREEK, NEAR PROSPECT, OR

LOCATION.--Lat $42^{\circ}42'25''$, long $122^{\circ}23'20''$, in NE 1/4 sec.18, T.33 S., R.4 E., Jackson County, Hydrologic Unit 17100307, on left bank 900 ft upstream from Imnaha Creek, 1,200 ft upstream from South Fork diversion dam, and 6 mi southeast of Prospect.

DRAINAGE AREA.--52 mi².

PERIOD OF RECORD.--October 1931 to September 1949.

GAGE.--Water-stage recorder. Elevation of gage is 3,390 ft, from river-profile map.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--18 years, 127 ft³/s, 92,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s Dec. 1, 1942, gage height, 6.21 ft, from rating curve extended above 250 ft³/s on basis of former curve defined to 1,000 ft³/s; minimum, 27 ft³/s Oct. 1-21, 1931.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1933-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	45	39	36	34	--	--
3	17	46	39	37	34	--	--
7	17	46	40	37	35	--	--
14	17	47	41	38	36	--	--
30	17	49	42	39	36	--	--
60	17	51	43	40	37	--	--
90	17	54	45	41	38	--	--
120	17	57	48	43	40	--	--
183	17	68	56	51	47	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1932-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	574	880	1130	1500	--	--
3	18	476	701	880	1140	--	--
7	18	404	564	679	836	--	--
15	18	353	478	558	658	--	--
30	18	320	424	483	551	--	--
60	18	280	366	413	462	--	--
90	18	242	311	349	389	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1932-1949

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
497	736	1110	1380	1750	--	--	

Systematic n = 18 historical n = 0
Generalized 17b skew = 0.131

ROGUE RIVER BASIN

14331000 IMNAHA CREEK NEAR PROSPECT, OR

LOCATION.--Lat $42^{\circ}41'20''$, long $122^{\circ}23'00''$, in NE 1/4 sec.18, T.33 S., R.4 E., Jackson County, Hydrologic Unit 17100307, on left bank 1,200 ft upstream from mouth and 6 mi southeast of Prospect.

DRAINAGE AREA.--26 mi², approximately.

PERIOD OF RECORD.--September 1931 to October 1949.

GAGE.--Staff gage. Elevation of gage is 3,400 ft, from river-profile map.

REMARKS.--No diversion or regulation upstream from station.

AVERAGE DISCHARGE.--18 years (water years 1932-49), 42.8 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 500 ft³/s Feb. 13, 1945, gage not read, computed on basis of records for South and Middle Forks Rogue River near Prospect; minimum observed, 11 ft³/s Dec. 14, 1931, gage height, 0.46 ft.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1935-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	19	16	15	15	--	--
3	15	19	17	16	15	--	--
7	15	19	17	16	15	--	--
14	15	20	17	16	16	--	--
30	15	20	18	17	16	--	--
60	15	20	18	17	16	--	--
90	15	21	18	17	17	--	--
120	15	22	19	18	17	--	--
183	15	25	21	19	18	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1934-1949

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	163	277	368	501	--	--
3	16	141	222	281	361	--	--
7	16	118	175	214	264	--	--
15	16	104	147	175	208	--	--
30	16	93	128	150	175	--	--
60	16	81	110	126	145	--	--
90	16	72	95	108	123	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1934-1949

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
100	168	289	386	529	--	--

Systematic n = 16 historical n = 0
Generalized 17b skew = 0.131

ROGUE RIVER BASIN

14333000 MIDDLE FORK ROGUE RIVER NEAR PROSPECT, OR

LOCATION.--Lat $42^{\circ}44'05''$, long $122^{\circ}24'05''$, in NE 1/4 NE 1/4 sec.1, T.33 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on right bank 850 ft downstream from diversion dam and intake of Middle Fork power canal, and 4.5 mi southeast of Prospect.

DRAINAGE AREA.--56.5 mi².

PERIOD OF RECORD.--May 1925 to September 1955 (includes flow of Middle Fork power canal since completion Nov. 19, 1931).

GAGE.--Water-stage recorder. Datum of gage is 2,619 ft above National Geodetic Vertical Datum of 1929 (levels by the California-Oregon Power Co.). Prior to Nov. 10, 1949, water-stage recorder and staff gage at various sites and datums within 150 ft of present gage.

REMARKS.--All records given herein include flow in Middle Fork power canal which diverts 850 ft upstream from station for hydroelectric power and returns water to the Rogue River above South Fork Rogue River; practically no storage upstream from diversion dam.

AVERAGE DISCHARGE.--30 years (water years 1926-55), 184 ft³/s, 133,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,120 ft³/s Nov. 23, 1953, from rating curve extended above 250 ft on basis of shape of previous rating curves; minimum daily, 72 ft³/s Aug. 24, to Sept. 5, 1931.

STATISTICAL SUMMARIES

{n = number of values used to compute statistics}

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1934-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	22	111	98	92	88	83	--
3	22	112	99	94	90	86	--
7	22	113	101	95	92	88	--
14	22	114	102	96	92	88	--
30	22	116	103	98	94	90	--
60	22	119	106	100	95	90	--
90	22	122	108	102	97	92	--
120	22	125	110	104	99	94	--
183	22	137	119	112	108	103	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1933-1955

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23	666	1020	1310	1730	2100	--
3	23	557	779	940	1160	1330	--
7	23	458	597	692	816	910	--
15	23	385	475	532	602	652	--
30	23	345	419	462	513	548	--
60	23	314	366	390	413	427	--
90	23	289	334	356	378	391	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1933-1956

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
558	915	1600	2210	3170	4050	--

Systematic n = 24 historical n = 0
Weighted skew = 0.435

ROGUE RIVER BASIN

14333500 RED BLANKET CREEK NEAR PROSPECT, OR

LOCATION.--Lat 42°46'40", long 122°25'35", in NW 1/4 NE 1/4 sec.23, T.32 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on right bank 1.8 mi downstream from Lick Creek, 3.7 mi northeast of Prospect, and at mile 4.8.

DRAINAGE AREA.--45.5 mi².

PERIOD OF RECORD.--May 1925 to September 1981.

GAGE.--Water-stage recorder. Elevation of gage is 2,780 ft, from river-profile map. Prior to Sept. 7, 1949, nonrecording gage at several sites within 2.5 mi of present site at various datums.

REMARKS.--No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--56 years (water years 1926-81), 115 ft³/s, 83,320 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,190 ft³/s Dec. 22, 1964, gage height, 7.85 ft, from rating curve extended above 1,500 ft³/s; minimum observed, 34 ft³/s Sept. 3, 4, 25, Oct. 9, 16, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1935-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	47	56	47	43	40	37	35
3	47	57	48	43	40	37	35
7	47	58	49	45	41	38	36
14	47	59	50	46	42	39	37
30	47	61	51	47	44	40	38
60	47	63	53	49	45	42	40
90	47	66	55	51	47	44	42
120	47	68	58	53	49	46	43
183	47	80	66	60	56	52	49

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1934-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	48	465	784	1050	1470	1840	2260
3	48	376	608	808	1120	1410	1740
7	48	299	447	568	752	913	1100
15	48	249	344	413	507	583	664
30	48	220	288	331	384	423	461
60	48	192	247	281	321	349	377
90	48	175	220	247	279	300	320

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
327	560	993	1360	1910	2400	2960	

Systematic n = 55 historical n = 0
Weighted skew = 0.215

UPPER ROGUE RIVER BASIN

14334700 SOUTH FORK ROGUE RIVER, SOUTH OF PROSPECT, OR

LOCATION.--Lat 42°42'45", long 122°30'20", in NW 1/4 SE 1/4 sec.7, T.33 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on right bank 200 ft upstream from unnamed tributary, 0.6 mi upstream from Smith Creek, 1.2 mi downstream from Beaver Creek, 2.8 mi southwest of Prospect, and at mile 2.4.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD.--October 1968 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,030 ft, from topographic map.

REMARKS.--Some regulation by South Fork canal dam upstream. Power diversions upstream from station from South Fork Rogue River, Middle Fork Rogue River, and Red Blanket Creek divert water to Rogue River via Main Canal. During summer base flow all of streamflow is diverted for power except that for fish life. Base flow at station is principally from springs downstream from power diversions.

AVERAGE DISCHARGE.--19 years, 396 ft³/s, 286,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,880 ft³/s Mar. 3, 1972, gage height, 12.71 ft, from floodmark; minimum discharge, 54 ft³/s Sept. 24-30, 1970, but may have been lower during period of no record Sept. 24-30, 1970, Aug. 16-19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 20.1 ft, Dec. 22, 1964, from floodmarks at gage, discharge, 28,500 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	18	85	65	56	51	--	--
3	18	86	65	57	51	--	--
7	18	88	66	58	52	--	--
14	18	91	67	58	52	--	--
30	18	95	70	60	54	--	--
60	18	103	76	65	58	--	--
90	18	109	79	67	59	--	--
120	18	117	83	71	62	--	--
183	18	166	121	104	92	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1969-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	2380	4540	6220	8570	--	--
3	19	1990	3580	4750	6330	--	--
7	19	1590	2680	3420	4360	--	--
15	19	1230	1940	2400	2960	--	--
30	19	989	1490	1790	2130	--	--
60	19	779	1120	1300	1490	--	--
90	19	700	1010	1170	1340	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1650	3060	5810	8190	11900	--	--	

Systematic n = 18 historical n = 98
Generalized 17b skew = 0.120

ROGUE RIVER BASIN

14335000 ROGUE RIVER BELOW SOUTH FORK ROGUE RIVER, NEAR PROSPECT, OR

LOCATION.--Lat $42^{\circ}42'00''$, long $122^{\circ}35'40''$, in SW 1/4 NW 1/4 sec.16, T.33 S., R.2 E., Jackson County, Hydrologic Unit 17100307, on left bank 130 ft upstream from highway bridge, 0.5 mi downstream from Cascade Gorge, 3.1 mi downstream from South Fork Rogue River, 6.6 mi southwest of Prospect, and at mile 160.4 (river-profile survey).

DRAINAGE AREA.--650 mi².

PERIOD OF RECORD.--October 1928 to September 1965. Prior to May 1929 monthly discharge only, published in WSP 1318.

GAGE.--Staff gage. Datum of gage is 1,707.57 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to June 23, 1961, water-stage recorder at sites 195 ft downstream; prior to Aug. 31, 1957, water-stage recorder at datum 0.69 ft higher and Aug. 31, 1957 to June 22, 1961, water-stage recorder at datum 0.31 ft lower.

REMARKS.--Considerable diurnal fluctuation caused by powerplant 5.5 mi upstream from station. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--37 years, 1,799 ft³/s, 1,302,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft³/s Dec. 22, 1964, gage height, 23.0 ft, from floodmark, from rating curve extended above 18,000 ft³/s by logarithmic plotting; minimum since intake was lowered Aug. 18, 1934, 493 ft³/s Sept. 1, 1934 (prior to Aug. 18, 1934, minimum not determined).

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1930-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	36	878	749	689	643	595	565
3	36	902	768	704	654	601	567
7	36	913	780	715	665	611	577
14	36	927	792	726	674	618	583
30	36	946	808	740	686	629	592
60	36	971	828	757	700	640	601
90	36	997	845	770	710	646	605
120	36	1030	872	794	733	668	627
183	36	1180	963	864	790	713	666

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1929-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	37	6720	11300	15600	23100	30500	39700
3	37	5590	8920	11900	16800	21500	27100
7	37	4490	6670	8580	11600	14500	17800
15	37	3780	5200	6290	7870	9190	10700
30	37	3370	4400	5090	5980	6650	7340
60	37	3010	3840	4360	4970	5420	5840
90	37	2780	3460	3860	4310	4620	4910

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1932-1955

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
5490	8690	15000	20700	30000	38700	49300	

Systematic n = 34 historical n = 0
Weighted skew = 0.613

ROGUE RIVER BASIN

14335500 SOUTH FORK BIG BUTTE CREEK NEAR BUTTE FALLS, OR

LOCATION.--Lat $42^{\circ}32'25''$, long $122^{\circ}33'15''$, in NE 1/4 SW 1/4 sec.11, T.35 S., R.2 E., Jackson County, Hydrologic Unit 17100307, on right bank 10 ft downstream from Ginger Creek, 0.6 mi east of town of Butte Falls, and at mile 14.0.

DRAINAGE AREA.--138 mi².

PERIOD OF RECORD.--September 1910 to October 1911 (published as "at Butte Falls"), August to October 1915, October 1917 to September 1922, March 1925 to 1987. Monthly discharge only August, September 1915, published in WSP 1318.

REVISED RECORDS.--WSP 1288: 1911, 1918-19, 1921-22, 1929. WSP 1318: 1918-19. WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1968. Elevation of gage is 2,360 ft, from river-profile map. Sept. 21, 1910, to Sept. 30, 1922, nonrecording gage at site 300 ft upstream at different datum.

REMARKS.--Flow slightly regulated since 1952 by Willow Creek Reservoir, capacity, 7,320 acre-ft. Diversions for irrigation upstream from station and for municipal water supply for Medford (since 1927) and Butte Falls.

AVERAGE DISCHARGE.--68 years (water years 1911, 1918-22, 1926-87), 154 ft³/s, 111,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft³/s Dec. 22, 1964, gage height, 7.65 ft, from rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 29 ft³/s Sept. 26, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1929-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	59	65	52	45	40	35	31
3	59	66	52	46	41	35	32
7	59	67	53	47	42	36	33
14	59	68	55	48	43	38	35
30	59	70	57	51	47	42	39
60	59	73	60	54	49	44	41
90	59	75	63	57	52	48	45
120	59	77	65	59	54	50	47
183	59	84	70	63	58	54	51

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1928-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	60	628	1190	1710	2560	3360	4320
3	60	538	979	1370	2010	2600	3300
7	60	451	773	1040	1460	1820	2230
15	60	374	599	771	1010	1210	1420
30	60	318	488	609	768	892	1020
60	60	270	403	494	613	703	794
90	60	248	363	439	534	605	675

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1911-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
412	758	1510	2240	3500	4740	6280	

Systematic n = 68 historical n = 0
Weighted skew = 0.436

ROGUE RIVER BASIN

14337500 BIG BUTTE CREEK NEAR MCLEOD, OR

LOCATION.--Lat 42°39'05", long 122°41'25", in NE 1/4 NW 1/4 sec.3, T.34 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 225 ft upstream from county road bridge, 0.9 mi south of McLeod, and at mile 0.64.

DRAINAGE AREA.--245 mi².

PERIOD OF RECORD.--October 1945 to September 1957. October 1967 to 1987.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,525.95 ft above National Geodetic Vertical Datum of 1929. Oct. 9, 1945, to Sept. 30, 1957, nonrecording gage at site 260 ft downstream at datum 0.53 ft higher.

REMARKS.--Slight regulation by fish hatchery 600 ft upstream from station. Several diversions in the vicinity of Butte Falls, the two largest being the city of Medford diversion and Eagle Point Irrigation District Canal.

AVERAGE DISCHARGE.--32 years, 278 ft³/s, 201,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,950 ft³/s Dec. 22, 1955, gage height, 12.75 ft, site and datum then in use, from rating curve extended above 3,300 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 6.4 ft³/s June 23, 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 18.6 ft, present site, from floodmark by local resident, discharge, 16,800 ft³/s, from rating curve, at former site, extended above 9,000 ft³/s and field estimate of overflow.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	30	60	43	34	27	20	16
3	30	59	44	37	32	26	23
7	30	60	46	40	35	30	27
14	30	61	48	42	37	32	29
30	30	63	50	43	39	34	31
60	30	66	52	46	41	36	33
90	30	71	56	49	43	38	35
120	30	80	62	54	47	41	37
183	30	99	75	65	58	52	48

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	32	2240	3830	4860	6100	6950	7740
3	32	1780	2940	3640	4410	4910	5350
7	32	1360	2160	2620	3100	3390	3640
15	32	1010	1530	1820	2120	2310	2470
30	32	779	1160	1380	1610	1750	1870
60	32	628	934	1100	1280	1390	1490
90	32	569	844	994	1150	1240	1320

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1946-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1780	3190	5660	7600	10400	12600	15100	

Systematic n = 32 historical n = 0
Weighted skew = -0.083

ROGUE RIVER BASIN

14337600 ROGUE RIVER NEAR MCLEOD, OR

LOCATION.--Lat $42^{\circ}39'20''$, long $122^{\circ}42'50''$, in SW 1/4 sec.33, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on left bank at Obstinate J Ranch, 1.3 mi downstream from Big Butte Creek, 1.6 mi southwest of McLeod, and at mile 154.0.

DRAINAGE AREA.--938 mi².

PERIOD OF RECORD.--October 1965 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,489.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Diversions for irrigation upstream from station; most of low flow of Big Butte Creek is diverted near Butte Falls.

AVERAGE DISCHARGE.--22 years, 2,166 ft³/s, 1,569,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s Mar. 3, 1972, gage height, 12.24 ft; minimum discharge, 468 ft³/s Feb. 18, 1977, result of closure of Lost Creek Dam, minimum prior to that time, 604 ft³/s Sept. 5, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1928, 20.35 ft Dec. 22, 1964, from floodmarks, discharge, 74,300 ft³/s, from slope-area measurement of peak flow.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	1030	893	830	--	--	--
3	10	1040	903	838	--	--	--
7	10	1060	914	847	--	--	--
14	10	1080	930	859	--	--	--
30	10	1100	943	874	--	--	--
60	10	1130	973	902	--	--	--
90	10	1150	993	918	--	--	--
120	10	1180	1010	935	--	--	--
183	10	1380	1160	1070	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	9450	16000	21600	--	--	--
3	11	8060	13400	18200	--	--	--
7	11	6670	10300	13300	--	--	--
15	11	5370	7760	9580	--	--	--
30	11	4370	5990	7190	--	--	--
60	11	3670	4900	5810	--	--	--
90	11	3360	4480	5280	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
7380	12200	20400	26900	--	--	--	

Systematic n = 11 historical n = 49
Generalized 17b skew = 0.095

ROGUE RIVER BASIN

14337600 ROGUE RIVER NEAR MCLEOD, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	7560	11000	13100	--	--	--
3	10	7110	10000	11500	--	--	--
7	10	5870	8040	9170	--	--	--
15	10	4530	6120	7040	--	--	--
30	10	3660	4840	5590	--	--	--
60	10	3040	3770	4210	--	--	--
90	10	2760	3460	3920	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

ROGUE RIVER BASIN

14337800 ELK CREEK NEAR CASCADE GORGE, OR

LOCATION.--Lat $42^{\circ}46'25''$, long $122^{\circ}40'15''$, in NW 1/4 sec.23, T.32 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 0.1 mi downstream from Sugarpine Creek, 6.5 mi northwest of town of Cascade Gorge, and at mile 10.7.

DRAINAGE AREA.--78.8 mi².

PERIOD OF RECORD.--August 1973 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,813.83 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation. Many diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--14 years, 151 ft³/s, 26.02 in/yr, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft³/s Jan. 15, 1974, gage height, 8.9 ft, from floodmark; minimum daily discharge, 0.72 ft³/s Aug. 24, 1973.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	13	2.4	1.5	1.2	--	--	--	
3	13	2.6	1.7	1.4	--	--	--	
7	13	2.8	1.9	1.6	--	--	--	
14	13	3.2	2.3	1.9	--	--	--	
30	13	3.7	2.7	2.3	--	--	--	
60	13	4.6	3.5	3.0	--	--	--	
90	13	6.0	4.7	4.1	--	--	--	
120	13	8.4	6.6	5.7	--	--	--	
183	13	20	14	11	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	14	2370	3390	3700	3880	--	--	
3	14	1620	2600	3070	3480	--	--	
7	14	1080	1770	2140	2500	--	--	
15	14	768	1140	1300	1430	--	--	
30	14	574	803	889	952	--	--	
60	14	432	605	674	727	--	--	
90	14	371	536	613	681	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1974-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2170	3080	4420	5370	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.115

ROGUE RIVER BASIN

14337870 WEST BRANCH ELK CREEK NEAR TRAIL, OR

LOCATION.--Lat $42^{\circ}42'40''$, long $122^{\circ}44'55''$, in SW 1/4 sec.7, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on Bureau of Land Management land, on left bank 300 ft upstream from Spot Creek and 5.3 mi northeast of Trail.

DRAINAGE AREA.--14.2 mi².

PERIOD OF RECORD.--October 1973 to September 1976, October 1977 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,773.24 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--13 years, 22.9 ft³/s, 21.90 in/yr, 16,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,410 ft³/s Jan. 15, 1974, gage height, 5.30 ft, from rating curve extended above 600 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.26 ft³/s Sept. 16, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1975-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	1.3	0.7	0.5	--	--	--
3	11	1.3	0.7	0.5	--	--	--
7	11	1.3	0.8	0.5	--	--	--
14	11	1.4	0.8	0.6	--	--	--
30	11	1.5	0.9	0.7	--	--	--
60	11	1.7	1.1	0.8	--	--	--
90	11	1.9	1.3	1.0	--	--	--
120	11	2.1	1.6	1.3	--	--	--
183	11	3.5	2.8	2.6	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13	371	525	635	--	--	--
3	13	245	367	457	--	--	--
7	13	166	258	321	--	--	--
15	13	118	169	196	--	--	--
30	13	87	113	124	--	--	--
60	13	66	88	98	--	--	--
90	13	55	78	92	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1974-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
412	576	811	975	--	--	--	

Systematic n = 14 historical n = 0
Generalized 17b skew = 0.099

ROGUE RIVER BASIN

14338000 ELK CREEK NEAR TRAIL, OR

LOCATION.--Lat $42^{\circ}39'50''$, long $122^{\circ}44'50''$, in SW 1/4 sec.30, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 3.3 mi northeast of Trail and at mile 0.4.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--October 1945 to 1987. Prior to March 1946 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,456.56 ft above National Geodetic Vertical Datum of 1929. Prior to July 5, 1946, nonrecording gage at various sites within 1.0 mi of present site at different datums. July 5, 1946, to June 22, 1950, nonrecording gage, and June 23, 1950, to May 23, 1954, water-stage recorder, at site 0.3 mi upstream at datum 12.14 ft higher.

REMARKS.--Low flow regulation resulting from construction of Elk Creek Dam 1.3 mi upstream. Diversions for irrigation and dam construction upstream from station.

AVERAGE DISCHARGE.--42 years, 230 ft³/s, 166,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,200 ft³/s Dec. 22, 1964, gage height, 18.84 ft, from rating curve extended above 4,700 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 0.24 ft³/s Sept. 30, 1987, result of dam construction 1.3 mi upstream.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	2.4	1.5	1.2	1.0	0.8	0.7
3	41	2.7	1.7	1.3	1.1	0.9	0.8
7	41	2.9	1.8	1.4	1.2	1.0	0.8
14	41	3.3	2.0	1.6	1.3	1.0	0.9
30	41	3.9	2.5	1.9	1.6	1.3	1.1
60	41	5.1	3.4	2.7	2.3	1.8	1.6
90	41	6.6	4.7	3.9	3.4	2.9	2.6
120	41	9.5	7.0	5.9	5.2	4.5	4.2
183	41	26	17	14	13	11	9.9

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1947-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	41	3830	5840	6840	7780	8290	8690
3	41	2620	4120	4990	5920	6510	7020
7	41	1730	2660	3210	3810	4200	4550
15	41	1200	1730	2000	2260	2420	2540
30	41	897	1260	1440	1620	1720	1800
60	41	695	962	1090	1220	1290	1350
90	41	596	818	931	1040	1110	1160

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1946-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3290	5190	8200	10400	13500	15900	18400	

Systematic n = 42 historical n = 0
Weighted skew = 0.013

ROGUE RIVER BASIN

14339000 ROGUE RIVER AT DODGE BRIDGE, NEAR EAGLE POINT, OR

LOCATION.--Lat $42^{\circ}31'30''$, long $122^{\circ}50'30''$, in SE 1/4 sec.17, T.35 S., R.1 W., Jackson County, Hydrologic Unit 17100307, on right bank 50 ft upstream from Dodge Bridge, 0.7 mi downstream from Reese Creek, 4.3 mi northwest of Eagle Point, and at mile 138.61.

DRAINAGE AREA.--1,215 mi².

PERIOD OF RECORD.--October 1938 to 1987.

REVISED RECORDS.--WSP 1094: 1942(M), 1943, 1945(M), 1946. WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,271.39 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1938, nonrecording gage, Dec. 21, 1938, to Aug. 15, 1968, water-stage recorder, at datum 2.27 ft higher, Aug. 16, 1968, to Sept. 30, 1976, water-stage recorder, at datum 1.00 ft higher.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Diversions for irrigation upstream from station; most of low flow of Big Butte Creek (station 14337500) is diverted near Butte Falls.

AVERAGE DISCHARGE.--49 years, 2,615 ft³/s, 1,895,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft³/s Dec. 22, 1964, gage height, 12.78 ft, datum then in use, from rating curve extended above 23,000 ft³/s; minimum discharge, 567 ft³/s Feb. 18, 1977, result of closure of Lost Creek dam, minimum prior to that time, 611 ft³/s Aug. 6, 14, 29, Sept. 9, 1940.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	1070	937	875	827	777	745
3	37	1080	949	886	838	787	754
7	37	1090	957	894	845	793	760
14	37	1100	968	905	856	805	773
30	37	1120	983	919	869	818	786
60	37	1150	1010	946	896	844	812
90	37	1190	1040	969	916	860	825
120	37	1230	1070	1000	944	885	849
183	37	1490	1260	1150	1080	1000	952

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38	16000	26700	35200	47500	57900	69200
3	38	12400	20400	26800	36300	44400	53400
7	38	9050	14200	18300	24200	29300	34900
15	38	6820	10000	12400	15700	18400	21300
30	38	5470	7580	9150	11300	13100	15000
60	38	4620	6180	7310	8850	10100	11400
90	38	4270	5600	6500	7680	8590	9530

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
12700	20800	35300	47100	64900	80300	97700	

Systematic n = 38 historical n = 0
Weighted skew = 0.247

ROGUE RIVER BASIN

14339500 SOUTH FORK LITTLE BUTTE CREEK AT BIG ELK RANGER STATION, OR

LOCATION.--Lat $42^{\circ}20'40''$, long $122^{\circ}21'30''$, in NW 1/4 sec.21, T.37 S., R.4 E., Jackson County, Hydrologic Unit 17100307, 1.0 mi south of Big Elk ranger station, 2.5 mi upstream from Big Draw Creek, and 15 mi southeast of Lake Creek Post Office.

DRAINAGE AREA.--Approximately 17 mi².

PERIOD OF RECORD.--October 1926 to September 1950.

GAGE.--Water-stage recorder. Elevation of gage is 4,660 ft, by barometer. Prior to Oct. 28, 1942, water-stage recorder 600 ft downstream at same datum.

REMARKS.--No diversion or regulation upstream from station.

COOPERATION.--Records for 1932-50, furnished by the Oregon Water Resources Department.

AVERAGE DISCHARGE.--24 years, 17.9 ft³/s, 12,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 145 ft³/s May 25, 1942, gage height, 280 ft, from rating curve extended above 25 ft³/s; minimum recorded, 4.0 ft³/s July 8-15, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	23	7.4	5.8	5.0	4.4	3.8	--
3	23	7.5	5.8	5.1	4.5	3.9	--
7	23	7.6	6.0	5.2	4.6	4.0	--
14	23	7.7	6.1	5.4	4.9	4.3	--
30	23	8.0	6.5	5.8	5.2	4.7	--
60	23	8.4	6.9	6.2	5.6	5.0	--
90	23	8.8	7.2	6.4	5.8	5.1	--
120	23	9.2	7.4	6.5	5.8	5.1	--
183	23	9.7	8.0	7.2	6.5	5.8	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1950

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24	80	116	131	144	149	--
3	24	77	113	127	139	144	--
7	24	75	107	120	130	135	--
15	24	71	101	112	121	124	--
30	24	63	89	99	107	110	--
60	24	49	68	74	79	81	--
90	24	40	53	59	62	64	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1950

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
70	95	124	141	160	--	--	

Systematic n = 24 historical n = 0
Weighted skew = -0.419

ROGUE RIVER BASIN

14341500 SOUTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR

LOCATION.--Lat $42^{\circ}24'30''$, long $122^{\circ}36'00''$, in SE 1/4 sec.29, T.36 S., R.2 E., Jackson County, Hydrologic Unit 17100307, on left bank 0.5 mi upstream from intake of Rogue River Valley Canal, 1.4 mi southeast of Lakecreek, and at mile 18.1.

DRAINAGE AREA.--138 mi².

PERIOD OF RECORD.--April 1921 to September 1982.

GAGE.--Water-stage recorder. Elevation of gage is 1,725 ft, by barometer. Supplementary nonrecording gage at site 25 ft upstream used Jan. 12 to Sept. 6, 1965. Apr. 15 to June 17, 1921, nonrecording gage, and June 18, 1921, to Sept. 6, 1965, water-stage recorder at site 75 ft upstream at datum 4.97 ft higher.

REMARKS.--No regulation. Diversions for irrigation upstream from station; also, in December 1958 Dead Indian collection canal began diverting upstream from station from Code Creek and Dead Indian Creek and in December 1959 South Fork Little Butte collection canal began diverting upstream from station from South Fork Little Butte Creek, Daley Creek, and Beaver Dam Creek. These are transbasin diversions to Howard Prairie Reservoir in Klamath River basin, but eventually this water is diverted back to Rogue River basin for irrigation of lands in the Ashland-Medford area and power development enroute.

AVERAGE DISCHARGE.--61 years (water years 1922-82), 104 ft³/s, 75,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,660 ft³/s Dec. 2, 1962, gage height, 8.35 ft, site and datum then in use; minimum, 2.0 ft³/s Aug. 10, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1923-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2		5		10	
		50%	20%	10%	5%	2%	1%
1	35	13	9.0	6.9	5.4	4.0	3.2
3	35	14	9.5	7.3	5.7	4.1	3.2
7	35	15	10	7.7	5.9	4.3	3.4
14	35	15	11	8.3	6.5	4.8	3.8
30	35	16	11	8.8	6.9	5.1	4.0
60	35	17	12	9.5	7.6	5.7	4.6
90	35	18	13	11	8.7	6.8	5.7
120	35	19	14	12	9.8	7.8	6.7
183	35	27	18	15	12	10	9.3

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1922-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2		5		10	
		50%	20%	10%	5%	2%	1%
1	36	760	1310	1690	2170	2520	2860
3	36	615	995	1230	1500	1670	1840
7	36	497	747	878	1010	1080	1140
15	36	416	581	651	711	739	760
30	36	351	477	527	566	583	594
60	36	292	403	448	484	500	511
90	36	255	347	384	413	426	435

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1922-1958

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
617	1160	2090	2820	3840	4660	5530	

Systematic n = 37 historical n = 0
Weighted skew = -0.193

ROGUE RIVER BASIN

14341500 SOUTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	11	8.5	7.5	6.8	6.1	--
3	21	11	8.8	7.8	7.1	6.4	--
7	21	11	9.2	8.3	7.6	7.0	--
14	21	12	10	9.4	8.8	8.3	--
30	21	14	12	11	10	9.5	--
60	21	15	13	12	11	10	--
90	21	17	14	12	12	11	--
120	21	18	15	13	12	11	--
183	21	26	20	18	17	15	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	751	1620	2480	3990	5480	--
3	22	571	1200	1830	2950	4090	--
7	22	435	832	1210	1860	2490	--
15	22	348	587	780	1070	1310	--
30	22	282	452	573	734	859	--
60	22	227	359	452	573	666	--
90	22	196	307	383	480	552	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

ROGUE RIVER BASIN

14342500 NORTH FORK LITTLE BUTTE CREEK AT FISH LAKE, NEAR LAKECREEK, OR

LOCATION.--Lat $42^{\circ}22'35''$, long $122^{\circ}21'20''$, in SE 1/4 SW 1/4 sec.4, T.37 S., R.4 E., Jackson County, Hydrologic Unit 17100307, on right bank 0.5 mi downstream from Fish Lake dam, 14 mi east of Lakecreek, and at mile 15.2. DRAINAGE AREA.--20.8 mi².

PERIOD OF RECORD.--October 1914 to July 1915, June 1916 to 1987. Monthly discharge only November 1916 to May 1917, published in WSP 1318.

REVISED RECORDS.--WSP 654: Drainage area (former site). WSP 1218: 1917(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,571.41 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1914, to July 31, 1915, nonrecording gage at site 0.5 mi upstream at different datum. June 1, 1916, to July 9, 1918, nonrecording gage and July 10, 1918, to Oct. 28, 1932, water-stage recorder at site 0.25 mi upstream at different datums.

REMARKS.--Since 1915, Fish Lake has stored water for irrigation by Medford Irrigation District. Cascade Canal diverts from Fourmile Lake in Klamath River basin and discharges into lava bed 1.0 mi upstream from Fish Lake; diversion began August 1923. No diversion from creek upstream from station.

AVERAGE DISCHARGE.--71 years (water years 1917-87), 36.1 ft³/s, 26,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, approximately 940 ft³/s June 5, 1917, computed from rate of change in contents of reservoir after break in dam occurred; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1925-1987

[Short-duration statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	62	2.9	0.4	0.0	0.0	0.0	0.0
3	62	2.9	0.4	0.1	0.0	0.0	0.0
7	62	3.1	0.5	0.1	0.0	0.0	0.0
14	62	3.6	0.6	0.2	0.0	0.0	0.0
30	62	5.1	0.9	0.3	0.1	0.0	0.0
60	62	7.9	2.5	1.2	0.6	0.2	0.1
90	62	9.9	4.5	2.8	1.9	1.1	0.8
120	62	12	6.1	4.2	3.1	2.1	1.6
183	62	15	8.9	6.8	5.4	4.1	3.4

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1924-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	63	118	137	146	156	163	169
3	63	115	134	144	154	161	166
7	63	112	131	141	151	158	164
15	63	109	128	138	148	155	161
30	63	103	122	132	142	148	154
60	63	92	110	119	128	134	139
90	63	81	97	104	111	115	118

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
101	120	140	150	162	170	176	

Systematic n = 64 historical n = 0
Weighted skew = -0.349

ROGUE RIVER BASIN

14343000 NORTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR

LOCATION.--Lat $42^{\circ}24'10''$, long $122^{\circ}32'10''$, in NW 1/4 sec.36, T.36 S., R.2 E., Jackson County, Hydrologic Unit 17100307, on right bank 1.2 mi upstream from Wasson Canyon, 4.9 mi east of Lakecreek, and at mile 4.8.

DRAINAGE AREA.--43.8 mi².

PERIOD OF RECORD.--September 1911 to March 1913, July to September 1917, May 1922 to December 1964, September 1965 to September 1985 (discontinued). Monthly discharge only for some periods, published in WSP 1318. Published as "Above Medford intake, near Lakecreek" 1922-28, 1931-40. Records for April to September 1916, May 1917 to September 1919, April to September 1921, and October 1923 to September 1924 at site 3 mi upstream not equivalent owing to diversion and difference in drainage areas.

GAGE.--Water-stage recorder. Concrete control since Oct. 9, 1968. Elevation of gage is 2,160 ft, from topographic map. Sept. 10, 1911, to Mar. 31, 1913, and July 1 to Sept. 30, 1917, nonrecording gage at site 1,000 ft downstream at different datums. May 26, 1922, to Dec. 31, 1964, water-stage recorder at site 1,000 ft downstream at datum 2,125.01 ft above mean sea level.

REMARKS.--Flow partly regulated since 1915 by Fish Lake (published with station 14342500). Diversions for irrigation upstream from station; some water diverted into Fish Lake from Fourmile Lake, in Klamath River basin, since 1923.

AVERAGE DISCHARGE.--63 years (water years 1912, 1923-64, 1966-85), 71.9 ft³/s, 52,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s Dec. 22, 1964, gage height, 6.06 ft, present site and datum; minimum discharge, 11 ft³/s Oct. 29 to Nov. 8, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1913-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
		1	56	27	19	16	13	11
3	56	27	19	16	13	11	9.9	9.9
7	56	28	19	16	14	11	9.9	9.9
14	56	28	20	17	14	12	10	10
30	56	30	21	18	15	13	11	11
60	56	34	25	21	18	16	14	14
90	56	39	29	24	21	18	16	16
120	56	43	32	27	24	21	19	19
183	56	50	38	33	29	25	23	23

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1912-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	59	165	246	323	454	581	742
3	59	151	212	267	357	441	543
7	59	142	184	218	268	311	360
15	59	137	168	188	214	234	253
30	59	130	156	171	187	199	209
60	59	118	140	152	165	173	181
90	59	108	128	139	151	159	166

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
152	238	413	575	847	1110	1430	

Systematic n = 59 historical n = 0
Weighted skew = 0.716

ROGUE RIVER BASIN

14347000 LITTLE BUTTE CREEK ABOVE EAGLE POINT, OR

LOCATION.--Lat $42^{\circ}28'30''$, long $122^{\circ}44'00''$, in NW 1/4 sec. 5, T. 36 S., R. 1 E., 1 mile upstream from intake of Eagle Point Canal, 3 miles east of Eagle Point, and 9.1 miles upstream from mouth.
DRAINAGE AREA.--274 mi².

PERIOD OF RECORD.--April 1916 to September 1926, October 1928 to June 1929. Records for 1928-29, not previously published by the Geological Survey, furnished by the State engineer of Oregon.

GAGE.--Staff gage. Elevation of gage is 1,390 ft (from river-profile map). Prior to Oct. 1, 1924, staff gages at site about half a mile downstream at different datums.

REMARKS.--Cascade Canal has diverted water from Klamath River basin to Fish Lake reservoir since August 1923. Rogue River Valley Canal since 1904, in part through the Medford Irrigation District Canal since 1922, diverts water for irrigation of about 13,200 acres chiefly in the Bear Creek basin downstream from Phoenix. Medford municipal water supply, about 7 ft³/s, was diverted upstream from station prior to 1927. Other diversions upstream from station for irrigation total about 44 ft³/s, of which about 2 ft³/s is used downstream from station. Regulation by Fish Lake reservoir.

AVERAGE DISCHARGE.--10 years (1916-26), 179 ft³/s, 129,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--1916-26, 1928-29: Maximum discharge, 7,000 ft³/s Dec. 30, 1924 (gage height, 13.0, from floodmark), from rating curve extended above 1,800 ft³/s by logarithmic plotting; minimum observed, 6.0 ft³/s June 17, 1924.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1916-1926

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1916-1926

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	1940	2790	3100	--	--	--
3	10	1210	1700	1910	--	--	--
7	10	888	1220	1390	--	--	--
15	10	655	904	1050	--	--	--
30	10	517	726	863	--	--	--
60	10	436	649	790	--	--	--
90	10	384	582	716	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

ROGUE RIVER BASIN

14350000 EMIGRANT CREEK NEAR ASHLAND, OR

LOCATION.--43°09'50", long 122°36'15", in SE 1/4 NE 1/4 sec.20, T.39 S., R.2 E., Jackson County, Hydrologic Unit 17100309, on left bank 0.1 mi downstream from Emigrant Dam, 6 mi southeast of Ashland, and at mile 29.2.

DRAINAGE AREA.--64.3 mi².

PERIOD OF RECORD.--January to June 1920, October 1921 to July 1922, February 1923 to May 1924 (incomplete), October 1924 to November 1925, February to August 1926, October 1926 to September 1928, April 1929 to September 1930, April 1931 to October 1932 (incomplete), April 1933 to September 1935, April 1936 to September 1939 (incomplete), April 1940 to September 1947, January 1948 to October 1952 (incomplete), December 1952 to 1987. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 2,042.80 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Oct. 1, 1926, water-stage recorder or nonrecording gage at several nearby sites at various datums. Oct. 1, 1926, to Feb. 24, 1959, water-stage recorder near present site at datum 10.93 ft higher. Feb. 25, 1959, to May 7, 1961, water-stage recorder at site 1.0 mi downstream at different datum.

REMARKS.--Flow regulated since 1924 by Emigrant Lake. Several diversions upstream from station for irrigation; the principal diversion canals are Ashland lateral and East lateral. Records for Ashland lateral and inflow to the basin from Green Springs powerplant can be obtained from the Oregon Water Resources Department. From June 1923 to August 1960, water diverted by Keene Creek Canal from Klamath River basin into Emigrant Creek upstream from station. Beginning May 1960, water from Klamath River basin diverted to Emigrant Creek upstream from station via Green Springs powerplant diversion.

AVERAGE DISCHARGE.--46 years (water years 1925, 1927-30, 1934-35, 1941-47, 1954-86), 34.0 ft³/s, 24,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,260 ft³/s Feb. 20, 1927, by computation of peak flow over dam; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1942-1960

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1960

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	295	704	1020	--	--	--
3	10	261	582	814	--	--	--
7	10	209	438	598	--	--	--
15	10	147	290	390	--	--	--
30	10	106	204	278	--	--	--
60	10	84	150	197	--	--	--
90	10	68	121	156	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

ROGUE RIVER BASIN

14350000 EMIGRANT CREEK NEAR ASHLAND, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1986

[Low-flow statistics uncertain due to excessive zero events]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		1	24	0.0	--	--	--
		3	24	0.1	0.0	--	--
		7	24	0.1	0.0	--	--
		14	24	0.1	0.0	--	--
		30	24	0.1	0.0	--	--
		60	24	0.1	0.0	--	--
		90	24	0.6	0.0	--	--
		120	24	1.7	0.1	0.0	--
		183	24	9.3	1.3	0.4	0.1
					0.1	0.0	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1986

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		1	25	278	589	862	1280
		3	25	262	557	817	1220
		7	25	234	479	689	1010
		15	25	177	348	499	739
		30	25	127	230	316	446
		60	25	97	164	219	299
		90	25	78	128	168	228
						279	336

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

Systematic n = -- historical n = --
Weighted skew = --

ROGUE RIVER BASIN

14353000 WEST FORK ASHLAND CREEK NEAR ASHLAND, OR

LOCATION.--Lat 42°08'55", long 122°42'55", near line between NW 1/4 and SW 1/4 sec.28, T.39 S., R.1 E., Jackson County, Hydrologic Unit 17100308, in Rogue River National Forest, on left bank 0.3 mi above city diversion, 2.5 mi south of Ashland, and at mile 0.4.

DRAINAGE AREA.--10.5 mi², at diversion dam 0.3 mi downstream.

PERIOD OF RECORD.--September 1924 to January 1933, water years 1954-60, 1963, annual maximum; December 1974 to September 1982. Monthly discharge only for some periods published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,962.75 ft above National Geodetic Vertical Datum of 1929. Sept. 10, 1924, to Jan. 31, 1933, water-stage recorder at site about 0.2 mi upstream at different datum. Oct. 14, 1953, to Sept. 30, 1963, crest-stage gage at diversion dam 0.3 mi downstream at different datum.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years (water years 1925-32, 1976-82), 8.92 ft³/s, 11.54 in/yr, 6,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330 ft³/s Dec. 2, 1962, gage height, 15.51 ft, site and datum then in use, from rating curve defined by computation of peak flow over dam; minimum, 1.3 ft³/s Aug. 29, 1931, Sept. 8, 9, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	2.1	1.7	1.5	1.4	--	--
3	14	2.1	1.7	1.5	1.4	--	--
7	14	2.2	1.7	1.5	1.4	--	--
14	14	2.3	1.8	1.6	1.5	--	--
30	14	2.4	1.9	1.6	1.5	--	--
60	14	2.7	2.1	1.8	1.6	--	--
90	14	2.9	2.2	2.0	1.8	--	--
120	14	3.1	2.4	2.1	1.9	--	--
183	14	3.9	3.0	2.6	2.4	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	40	74	99	132	--	--
3	15	33	58	76	100	--	--
7	15	27	43	54	66	--	--
15	15	22	34	42	51	--	--
30	15	18	29	36	44	--	--
60	15	16	26	32	40	--	--
90	15	15	23	28	34	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1982

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
32	64	148	245	444	672	--	

Systematic n = 24 historical n = 83
Weighted skew = 0.743

ROGUE RIVER BASIN

14353500 EAST FORK ASHLAND CREEK NEAR ASHLAND, OR

LOCATION.--Lat $42^{\circ}09'10''$, long $122^{\circ}42'30''$, near line between NE 1/4 and NW 1/4 sec.28, T.39 S., R.1 E., Jackson County, Hydrologic Unit 17100308, Rogue River National Forest, on left bank 0.1 mi above city diversion dam, 2.5 mi south of Ashland, and at mile 0.2.

DRAINAGE AREA.--8.14 mi², at diversion dam 0.1 mi downstream.

PERIOD OF RECORD.--September 1924 to January 1933, water years 1954-60, 1963, annual maximum, December 1974 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,903.70 ft above National Geodetic Vertical Datum of 1929. Sept. 10, 1924, to Jan. 31, 1933, water-stage recorder at site about 200 ft downstream at different datum. Oct. 19, 1953, to Sept. 30, 1963, crest-stage gage at diversion dam 0.1 mi downstream at different datum.

REMARKS.--No regulation or diversion.

AVERAGE DISCHARGE.--15 years (water years 1925-32, 1976-82), 9.37 ft³/s, 15.63 in/yr, 6,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335 ft³/s Dec. 2, 1962, gage height, 5.42 ft, site and datum then in use, from rating curve defined by computations of peak flow over dam; minimum, 0.47 ft³/s Mar. 14, 1977, result of freezeup.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1926-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	14	2.1	1.6	1.3	1.1	--	--
3	14	2.2	1.6	1.3	1.1	--	--
7	14	2.2	1.6	1.4	1.2	--	--
14	14	2.3	1.8	1.6	1.4	--	--
30	14	2.5	1.9	1.7	1.5	--	--
60	14	2.7	2.1	1.8	1.6	--	--
90	14	2.9	2.2	1.9	1.6	--	--
120	14	3.1	2.4	2.0	1.8	--	--
183	14	3.9	3.0	2.5	2.2	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1925-1982

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15	43	79	105	139	--	--
3	15	34	62	83	112	--	--
7	15	28	46	59	74	--	--
15	15	23	38	48	60	--	--
30	15	19	31	40	50	--	--
60	15	16	27	34	43	--	--
90	15	15	24	30	38	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1925-1982

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
30	74	219	414	862	1430	2290	

Systematic n = 25 historical n = 0
Weighted skew = 0.586

ROGUE RIVER BASIN

14357500 BEAR CREEK AT MEDFORD, OR

LOCATION.--Lat $42^{\circ}19'40''$, long $122^{\circ}52'10''$, in NW 1/4 sec.30, T.37 S., R.1 W., Jackson County, Hydrologic Unit 17100308, on left bank 40 ft upstream from Main Street Bridge, in Medford, and at mile 9.91.

DRAINAGE AREA.--289 mi².

PERIOD OF RECORD.--March 1915 to June 1920 (no low-flow records), October 1920 to September 1981, December 1983 to 1987. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1044: 1944. WSP 1448: 1916, 1917(M), 1918-20, 1922, 1924, 1927(M), 1928, 1930. WSP 1568: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,341.98 ft above National Geodetic Vertical Datum of 1929. Dec. 31, 1947, to Sept. 23, 1985, at datum 2.00 ft higher. See WSP 1738 for history of changes prior to Dec. 31, 1947.

REMARKS.--Flow partly regulated since 1924 by Emigrant Lake (published with station 14350000). Numerous diversions for irrigation and municipal use upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft³/s Dec. 2, 1962, gage height, 10.04 ft, present datum; maximum gage height, about 13.0 ft Feb. 20, 1927, from floodmarks, present datum, site then in use; no flow at times.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1922-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	63	10	3.4	1.6	0.8	0.3	0.2
3	63	11	3.6	1.7	0.9	0.4	0.2
7	63	12	4.1	2.0	1.0	0.4	0.2
14	63	13	4.6	2.2	1.1	0.5	0.2
30	63	16	5.5	2.7	1.4	0.6	0.3
60	63	18	6.7	3.5	1.8	0.8	0.5
90	63	20	7.9	4.3	2.5	1.2	0.7
120	63	23	9.8	5.7	3.5	1.9	1.2
183	63	33	15	9.1	5.6	3.0	1.9

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1921-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	64	942	2280	3510	5440	7140	9040
3	64	711	1620	2400	3550	4490	5510
7	64	527	1130	1610	2290	2820	3370
15	64	398	806	1110	1530	1840	2150
30	64	304	608	839	1150	1380	1620
60	64	238	458	621	835	996	1160
90	64	207	394	530	709	844	977

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1924-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
638	1640	4060	6410	10300	13900	18200	

Systematic n = 62 historical n = 0
Weighted skew = -0.156

ROGUE RIVER BASIN

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR

LOCATION.--Lat 42°26'15", long 122°59'10", in SW 1/4 sec.18, T.36 S., R.2 W., Jackson County, Hydrologic Unit 17100308, on right bank at Raygold, 0.1 mi downstream from Gold Ray Dam, 1.0 mi downstream from Bear Creek, 5.6 mi northwest of Central Point, and at mile 125.8.

DRAINAGE AREA.--2,053 mi².

PERIOD OF RECORD.--August 1905 to 1987. Prior to October 1921, published as "near Tolo."

REVISED RECORDS.--WSP 1248: 1906, 1914(M), 1915. WSP 1398: 1910(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,121.78 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1914, nonrecording gage and Sept. 19, 1914, to Sept. 30, 1956, water-stage recorder, at site 300 ft upstream at same datum.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Slight regulation by Fish Lake (published with station 14342500) and Emigrant Lake (published with station 14350000). Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--82 years, 2,988 ft³/s, 2,165,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131,000 ft³/s Dec. 23, 1964, gage height, 23.43 ft, from rating curve extended above 63,000 ft³/s on basis of slope-area measurement of 113,000 ft³/s; minimum discharge not determined; minimum daily, 616 ft³/s Sept. 6, 1931.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1907-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	70	1100	926	841	774	702	656	
3	70	1120	946	861	793	720	673	
7	70	1130	957	870	801	726	677	
14	70	1150	969	879	807	730	680	
30	70	1170	985	892	817	738	686	
60	70	1210	1010	918	841	758	705	
90	70	1240	1040	944	864	777	721	
120	70	1290	1080	975	891	800	742	
183	70	1550	1250	1110	1000	895	826	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1906-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	71	19400	34100	46100	64000	79400	96600	
3	71	14500	24900	33600	46700	58300	71500	
7	71	10800	17500	22900	30900	37800	45400	
15	71	8180	12400	15600	20100	23700	27700	
30	71	6500	9360	11500	14400	16800	19300	
60	71	5480	7610	9090	11000	12500	14000	
90	71	5040	6860	8050	9540	10600	11700	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1906-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15200	26100	46400	63500	89600	112500	138500	

Systematic n = 71 historical n = 0
Weighted skew = 0.201

ROGUE RIVER BASIN

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
		--	--	--	--	--	--
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
		--	--	--	--	--	--
1	10	19100	29400	35900	--	--	--
3	10	15200	23000	28000	--	--	--
7	10	11800	17200	20300	--	--	--
15	10	8750	12800	15200	--	--	--
30	10	6910	9740	11400	--	--	--
60	10	5530	7450	8450	--	--	--
90	10	4690	6410	7390	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

ROGUE RIVER BASIN

14361500 ROGUE RIVER AT GRANTS PASS, OR

LOCATION.--Lat $42^{\circ}25'50''$, long $123^{\circ}19'00''$, in NW 1/4 sec.20, T.36 S., R.5 W., Josephine County, Hydrologic Unit 17100308, on right bank at city of Grants Pass filter plant, 0.6 mi upstream from bridge on State Highway 99 at Grants Pass, and at mile 101.8. Prior to Sept. 3, 1983, at site 300 ft upstream.

DRAINAGE AREA.--2,459 mi².

PERIOD OF RECORD.--October 1938 to 1987. Prior to January 1939 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 884.28 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 8, 1957, at site 300 ft upstream at datum 4.00 ft higher and Aug. 8, 1957, to Sept. 2, 1983, at site 300 ft upstream at datum 1.00 ft higher.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake (station 14355040), slight regulation by Fish Lake and Emigrant Lake. Large fluctuations at times caused by Savage Rapids Dam 5.5 mi upstream from station. Many diversions from Rogue River and tributaries upstream from station, the largest of which is at Savage Rapids Dam of Grants Pass Irrigation District, 5.5 mi upstream from station.

AVERAGE DISCHARGE.--49 years, 3,518 ft³/s, 2,549,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 152,000 ft³/s Dec. 23, 1964, gage height, 35.15 ft, present datum, from rating curve extended above 93,000 ft³/s; minimum discharge, 195 ft³/s Jan. 30, 1961; minimum daily, 606 ft³/s Sept. 10, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1861 reached a stage of about 43 ft, present datum (information furnished by Corps of Engineers). Flood in February 1890 reached a stage of about 36 ft, present datum, and that of Feb. 21, 1927, about 32 ft, present datum, according to local resident.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	37	983	818	742	683	622	584
3	37	996	842	772	719	664	631
7	37	1010	858	790	739	687	655
14	37	1030	875	809	759	708	677
30	37	1050	899	832	782	733	702
60	37	1100	942	875	825	775	744
90	37	1160	991	917	861	804	769
120	37	1250	1070	987	922	854	811
183	37	1600	1330	1220	1140	1060	1010

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1940-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	37	31400	56200	75200	101700	123000	145400
3	37	23000	40400	54100	74000	90400	108300
7	37	16000	27000	35700	48500	59200	71100
15	37	11600	18300	23400	30500	36200	42400
30	37	8770	13300	16800	21700	25800	30300
60	37	7080	10300	12700	16200	19000	22100
90	37	6410	9060	11000	13600	15800	18000

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
21700	40200	72000	96500	130500	157800	186600	

Systematic n = 38 historical n = 0
Weighted skew = -0.196

ROGUE RIVER BASIN
14361500 ROGUE RIVER AT GRANTS PASS, OR--Continued

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	25700	39100	48000	--	--	--
3	10	19900	29200	35200	--	--	--
7	10	15100	21600	25400	--	--	--
15	10	11200	16300	19300	--	--	--
30	10	8720	12300	14400	--	--	--
60	10	6820	9430	10900	--	--	--
90	10	5750	8090	9510	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --

ROGUE RIVER BASIN

14361600 ELLIOTT CREEK NEAR COPPER, OR

LOCATION.--Lat 42°00'16", long 123°09'00", in W-1/2 sec.17, T.48 N., R.11 W., Mt. Diablo Meridian, Siskiyou County, CA, Hydrologic Unit 17100309, Rogue River National Forest, on left bank 0.3 mi upstream from Middle Fork Applegate River and 1.5 mi south of former town of Copper.

DRAINAGE AREA.--51.8 mi².

PERIOD OF RECORD.--October 1977 to September 1987 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,023.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No diversion or regulation.

AVERAGE DISCHARGE.--10 years, 108 ft³/s, 28.31 in/yr, 78,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,980 ft³/s Dec. 19, 1981, gage height, 7.13 ft; minimum discharge, 3.9 ft³/s Sept. 10, 1980; minimum daily, 7.1 ft³/s Sept. 14-16, 1981.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1979-1987

[Low-flow statistics not computed due to insufficient period of record]

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
60	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--
120	--	--	--	--	--	--	--
183	--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1978-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10	934	1720	2380	--	--	--
3	10	683	1240	1690	--	--	--
7	10	481	837	1110	--	--	--
15	10	366	593	755	--	--	--
30	10	287	448	560	--	--	--
60	10	227	329	390	--	--	--
90	10	195	290	355	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1978-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
747	1300	2220	2920	--	--	--	

Systematic n = 10 historical n = 0
Generalized 17b skew = -0.130

ROGUE RIVER BASIN

14362000 APPLEGATE RIVER NEAR COPPER, OR

LOCATION.--Lat $42^{\circ}03'50''$, long $123^{\circ}06'37''$, in SW 1/4 NW 1/4 sec.30, T.40 S., R.3 W., Jackson County, Hydrologic Unit 17100309, U.S. Corps of Engineers land, on left bank 0.1 mi downstream from Brushy Gulch, 0.6 mi downstream from Applegate Dam, 3.1 mi northeast of former town of Copper, and at mile 45.7.

DRAINAGE AREA.--225 mi².

PERIOD OF RECORD.--October 1938 to 1987. Prior to January 1939 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WDR OR-78-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,747.51 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1977, at site 0.6 mi upstream at datum 12.15 ft higher.

REMARKS.--Flow regulated since December 1980 by Applegate Lake (station 14361900). Some storage during winter in Squaw Lakes Reservoir, capacity, 1,100 acre-ft on Squaw Creek upstream from station. Diversions upstream from station from Carberry Creek for irrigation in Thompson Creek basin.

AVERAGE DISCHARGE.--49 years, 451 ft³/s, 326,700 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,800 ft³/s Jan. 15, 1974, gage height, 25.38 ft, site and datum then in use, from high-water mark in well, from rating curve extended above 12,000 ft³/s on basis of four slope-area measurements of peak flows made in 1950, 1955, 1964, and 1974; minimum discharge, 1.5 ft³/s Dec. 20, 1980, result of regulation at Applegate dam, 0.6 mi upstream.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	35	28	24	21	18	17
3	41	36	28	25	22	19	17
7	41	37	29	26	23	20	18
14	41	39	30	27	24	21	19
30	41	41	33	29	26	23	22
60	41	46	37	32	29	26	24
90	41	52	42	37	34	30	27
120	41	62	48	43	38	34	31
183	41	114	79	65	55	46	40

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	42	4540	9100	12800	18100	22400	26900
3	42	3290	6560	9280	13300	16600	20300
7	42	2350	4390	5930	8030	9680	11400
15	42	1700	2900	3740	4830	5650	6450
30	42	1310	2060	2550	3130	3540	3920
60	42	1050	1580	1900	2260	2490	2710
90	42	938	1350	1580	1820	1970	2090

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1980

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3090	6560	12900	17700	24300	29500	34800	

Systematic n = 42 historical n = 0
Weighted skew = -0.411

ROGUE RIVER BASIN

14363000 APPLEGATE RIVER NEAR RUCH, OR

LOCATION.--Lat $42^{\circ}10'40''$, long $123^{\circ}02'40''$, in E-1/2 sec.15, T.39 S., R.3 W., Jackson County, Hydrologic Unit 17100309, on downstream side of left pier of Cameron Bridge, 1.6 mi upstream from Little Applegate River and 4.2 mi south of Ruch.

DRAINAGE AREA.--302 mi².

PERIOD OF RECORD.--June 1911 to September 1914, September 1925 to September 1953. Published as "near Buncom" 1911-14. Monthly discharge only February to September 1927, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,475.64 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). June 18, 1911, to Sept. 30, 1914, staff gage at datum 0.88 ft lower.

REMARKS.--Diversions for irrigation of about 700 acres upstream from station. Cameron (Comstock) ditch diverts as much as 14 ft³/s around station on left bank. An average of about 8 ft³/s is diverted upstream from station for irrigation in Thompson Creek basin. Several hundred acre-feet stored in Squaw Lake (capacity, 1,100 acre-ft) each spring for irrigation the following summer.

AVERAGE DISCHARGE.--31 years (water years 1912-14, 1926-53), 389 ft³/s, 281,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s Feb. 20, 1927, gage height, 16.0 ft, from rating curve extended above 8,000 ft³/s; minimum, 7 ft³/s Sept. 2, 1929.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1927-1953

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	26	23	14	11	8.3	6.1	5.0
3	26	23	14	11	8.6	6.4	5.2
7	26	24	15	12	9.1	6.9	5.6
14	26	26	16	13	10	7.8	6.5
30	26	28	18	14	11	8.9	7.5
60	26	32	21	16	13	10	8.5
90	26	37	25	19	16	12	9.8
120	26	45	30	24	20	15	13
183	26	85	53	42	34	27	24

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1926-1953

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	28	3380	6520	9170	13200	16600	20500
3	28	2570	4690	6450	9080	11300	13900
7	28	1920	3170	4090	5350	6360	7400
15	28	1410	2170	2720	3450	4020	4610
30	28	1120	1650	2010	2480	2840	3200
60	28	909	1310	1570	1890	2130	2360
90	28	792	1130	1360	1640	1850	2060

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1926-1953

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
2440	5140	10200	14400	20300	25100	30300	

Systematic n = 28 historical n = 0
Weighted skew = -0.280

ROGUE RIVER BASIN

14366000 APPLEGATE RIVER NEAR APPLEGATE, OR

LOCATION.--Lat 42°14'30", long 123°08'20", in NE 1/4 sec.26, T.38 S., R.4 W., Jackson County, Hydrologic Unit 17100309, on left bank 0.9 mi downstream from Keeler Creek, 1.8 mi southeast of Applegate, and at mile 26.7.

DRAINAGE AREA.--483 mi².

PERIOD OF RECORD.--October 1938 to 1987.

RECORDS.--WSP 1738: Drainage area. WSP 1935: 1953(M). WDR OR-76-1: 1956(M), 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 1,285.33 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 23, 1938, nonrecording gage at same site and datum.

REMARKS.--Flow regulated since December 1980 by Applegate Lake (station 14361900). Many diversions for irrigation upstream from station. McDonald Creek Canal diverts from McDonald Creek upstream from station for irrigation in Bear Creek basin. Thompson Creek Irrigation Association ditch diverts upstream from station for irrigation in Thompson Creek basin. Fowler-Keeler and Berryman ditches divert upstream from station for irrigation downstream.

AVERAGE DISCHARGE.--49 years, 556 ft³/s, 402,800 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,200 ft³/s Jan. 15, 1974, gage height, 20.41 ft, from rating curve extended above 18,000 ft³/s on basis of slope-area measurements of flow at gage heights 18.00 ft and 19.57 ft; minimum discharge, 4.6 ft³/s Sept. 22-25, 1979. Minimum since first filling of Applegate Lake, 104 ft³/s Aug. 9, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 20, 1927, reached a stage of 18.7 ft, from floodmarks.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	17	10	8.0	6.4	5.0	4.2
3	41	18	11	8.8	7.1	5.7	4.8
7	41	19	12	9.8	8.2	6.6	5.8
14	41	21	14	11	9.4	7.8	6.8
30	41	24	16	13	11	9.0	7.9
60	41	30	19	15	13	10	8.6
90	41	38	25	20	17	14	12
120	41	51	36	30	26	21	19
183	41	122	80	63	52	41	35

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	42	6030	12600	17900	25500	31600	38000
3	42	4310	8880	12700	18100	22700	27500
7	42	3070	5850	7940	10700	12900	15100
15	42	2160	3830	5020	6550	7690	8810
30	42	1640	2710	3430	4310	4940	5540
60	42	1310	2050	2510	3030	3380	3710
90	42	1160	1750	2090	2460	2700	2900

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1980

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3980	8840	17900	25000	34800	42500	50400	

Systematic n = 42 historical n = 0
Weighted skew = -0.435

ROGUE RIVER BASIN

14368500 POWELL CREEK NEAR WILLIAMS, OR

LOCATION.--Lat $42^{\circ}16'00''$, long $123^{\circ}17'40''$, near center of sec.16, T.38 S., R.5 W., Josephine County, Hydrologic Unit 17100309, on left bank 0.1 mi upstream from Blodgett ditch intake and 2 mi northwest of Williams.

DRAINAGE AREA.--8.17 mi².

PERIOD OF RECORD.--September 1946 to September 1958.

GAGE.--Water-stage recorder. Elevation of gage is 1,680 ft, by barometer.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years (water years 1947-58), 16.2 ft³/s, 11,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft³/s Jan. 18, 1953, gage height, 5.36 ft, from rating curve extended above 550 ft³/s on basis of slope-area measurement at gage height 4.92 ft; minimum, 0.8 ft³/s Sept. 25, 1955.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1948-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
		1	11	1.3	1.0	0.9	--	--
		3	11	1.3	1.0	0.9	--	--
		7	11	1.4	1.1	1.0	--	--
		14	11	1.4	1.1	1.0	--	--
		30	11	1.5	1.2	1.1	--	--
		60	11	1.6	1.3	1.2	--	--
		90	11	1.8	1.5	1.4	--	--
		120	11	2.0	1.6	1.5	--	--
		183	11	2.8	2.1	1.8	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1947-1958

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
		1	12	322	523	611	--	--
		3	12	239	364	414	--	--
		7	12	153	225	254	--	--
		15	12	98	145	166	--	--
		30	12	73	107	123	--	--
		60	12	51	73	84	--	--
		90	12	42	62	72	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1947-1958

1.25 80%	2 50%	5 20%	10 10%	25 4%	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT		
					50 2%	100 1%	
					247	464	856
							1170
					--	--	--

Systematic n = 12 historical n = 0
Generalized 17b skew = -0.110

ROGUE RIVER BASIN

14369500 APPLEGATE RIVER NEAR WILDERVILLE, OR

LOCATION.--Lat $42^{\circ}21'15''$, long $123^{\circ}24'20''$, in SE 1/4 NE 1/4 sec.16, T.37 S., R.6 W., Josephine County, Hydrologic Unit 17100309, on left bank 0.3 mi downstream from Jackson Creek, 3.6 mi southeast of Wilderville, and at mile 7.6.

DRAINAGE AREA.--698 mi².

PERIOD OF RECORD.--October 1938 to September 1955, September 1978 to 1987.

REVISED RECORDS.--WSP 1318: 1943. WSP 1738: 1951, 1953, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 947.18 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Sept. 1, 1978, nonrecording gage at site 1,100 ft upstream at datum 2.36 ft higher.

REMARKS.--Flow regulated since December 1980 by Applegate Lake (station 14361900). Many diversions for irrigation upstream from station. Wilderville ditch diverts up to 16 ft³/s 0.3 mi upstream and at the mouth of Jackson Creek.

AVERAGE DISCHARGE.--26 years, 757 ft³/s, 548,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,500 ft³/s Jan. 18, 1953, gage height, 18.3 ft, from floodmark, site and datum then in use, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 0.78 ft³/s Aug. 22-24, 1979. Minimum since first filling of Applegate Lake, 183 ft³/s Aug. 9, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 20.3 ft, from floodmark, former site and datum, discharge, 66,500 ft³/s, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow.

Flood of February 1927 reached a stage of 22 ft at former site, from local resident. Floods of Dec. 22, 1964, and Jan. 15, 1974, are known to have exceeded the December 1955 flood.

No flow was observed at present site during the late summer of 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1940-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	8.5	3.3	2.0	1.3	--	--
3	17	9.4	3.8	2.4	1.6	--	--
7	17	10	4.3	2.8	2.0	--	--
14	17	11	4.9	3.2	2.3	--	--
30	17	13	6.1	4.2	3.1	--	--
60	17	21	11	7.6	5.7	--	--
90	17	30	17	13	10	--	--
120	17	51	32	25	20	--	--
183	17	166	94	67	50	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1939-1980

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19	7470	15500	22500	33200	--	--
3	19	5740	11400	15900	22400	--	--
7	19	4170	7490	9830	12800	--	--
15	19	2960	4940	6280	7940	--	--
30	19	2210	3580	4520	5710	--	--
60	19	1750	2710	3350	4130	--	--
90	19	1540	2310	2800	3380	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1939-1980

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4860	12500	30600	48000	76500	102600	--	

Systematic n = 20 historical n = 0
Weighted skew = -0.182

ROGUE RIVER BASIN

14370000 SLATE CREEK AT WONDER, OR

LOCATION.--Lat 42°21'40", long 123°31'10", in SW 1/4 sec.10, T.37 S., R.7 W., Josephine County, Hydrologic Unit 17100309, on left bank 0.6 mi upstream from Elliot Creek and 0.7 mi east of Wonder.

DRAINAGE AREA.--31.4 mi².

PERIOD OF RECORD.--July to November 1913, October 1943 to September 1957, water years 1958-60 (annual maximum). October 1943 to September 1945 monthly discharge only, published in WSP 1318.

GAGE.--Crest-stage gage. Datum of gage is 1,034.85 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 21, 1946, staff gage at several sites within 0.5 mi of described site at various datums. Nov. 21, 1946, to Sept. 30, 1957, water-stage recorder at present site and datum.

REMARKS.--No regulation. Several small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--14 years (water years 1944-57), 80.9 ft³/s, 58,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft³/s Oct. 29, 1950, gage height, 9.72 ft, from rating curve extended above 2,100 ft³/s on basis of slope-area measurements at gage heights 8.29 and 9.72 ft; minimum discharge, 0.2 ft³/s Aug. 25, 1957.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	11	0.9	0.7	0.6	--	--	--
3	11	1.0	0.8	0.7	--	--	--
7	11	1.2	0.9	0.8	--	--	--
14	11	1.3	1.0	0.8	--	--	--
30	11	1.5	1.1	0.9	--	--	--
60	11	1.8	1.4	1.2	--	--	--
90	11	2.3	1.7	1.4	--	--	--
120	11	3.2	2.3	2.0	--	--	--
183	11	7.0	4.7	3.9	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1957

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		.2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	12	1900	2730	3110	--	--	--
3	12	1270	1790	2020	--	--	--
7	12	796	1140	1300	--	--	--
15	12	521	768	907	--	--	--
30	12	364	556	681	--	--	--
60	12	269	394	474	--	--	--
90	12	228	336	403	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1944-1960

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
1530	2430	3780	4720	5950	--	--	

Systematic n = 17 historical n = 0
Generalized 17b skew = -0.161

ROGUE RIVER BASIN

14371500 GRAVE CREEK AT PEASE BRIDGE, NEAR PLACER, OR

LOCATION.--Lat $42^{\circ}38'30''$, long $123^{\circ}12'40''$, in SE 1/4 sec.6, T.34 S., R.4 W., Jackson County, Hydrologic Unit 17100310, on right bank 0.5 mi downstream from Pease Bridge, 0.5 mi upstream from Boulder Creek, 5.4 mi east of Placer, and at mile 27.1.

DRAINAGE AREA.--22.1 mi² at measuring site 0.5 mi upstream.

PERIOD OF RECORD.--October 1940 to 1987. Prior to October 1945 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,354.2 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Aug. 4, 1955, at sites 0.5 mi upstream at datum 29.9 ft higher.

REMARKS.--No regulation. One small diversion upstream from station. Prior to 1945, Columbia upper ditch diverted water about 2 mi upstream from station, bypassing station. Records herein are for measuring site.

AVERAGE DISCHARGE.--42 years (water years 1946-87), 59.1 ft³/s, 36.32 in/yr, 42,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft³/s Dec. 22, 1964, gage height, 11.20 ft, from rating curve extended above 1,200 ft³/s on basis of slope-area measurement at gage height 9.66 ft; minimum discharge, 0.12 ft³/s July 15, 1970.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	41	0.7	0.5	0.4	0.3	0.3	0.3
3	41	0.7	0.5	0.4	0.3	0.3	0.3
7	41	0.8	0.5	0.4	0.4	0.3	0.3
14	41	0.8	0.6	0.5	0.4	0.3	0.3
30	41	1.0	0.7	0.5	0.5	0.4	0.4
60	41	1.2	0.9	0.7	0.6	0.5	0.5
90	41	1.6	1.2	1.0	0.9	0.8	0.7
120	41	2.4	1.8	1.6	1.4	1.3	1.2
183	41	6.4	4.5	3.8	3.3	2.8	2.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	42	1130	1820	2200	2590	2820	3010
3	42	741	1180	1430	1710	1880	2030
7	42	481	733	876	1030	1130	1210
15	42	320	463	541	621	670	712
30	42	240	329	373	416	440	459
60	42	183	250	284	317	336	351
90	42	155	209	236	262	278	291

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1946-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1110	1750	2850	3730	5010	6100	7310	

Systematic n = 41 historical n = 0
Weighted skew = 0.240

ROGUE RIVER BASIN

14372300 ROGUE RIVER NEAR AGNESS, OR
(National stream quality accounting network station)

LOCATION.--Lat $42^{\circ}34'50''$, long $124^{\circ}03'30''$, in NE 1/4 NW 1/4 sec. 6, T.35 S., R.11 W., Curry County, Hydrologic Unit 17100310, on left bank 0.8 mi upstream from Shasta Costa Creek, 1.5 mi north of Agness, 2.6 mi upstream from Illinois River, and at mile 29.7.

DRAINAGE AREA.--3,939 mi².

PERIOD OF RECORD.--October 1960 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 113.81 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Public Roads).

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake (station 14335040), since December 1980 by Applegate Lake (station 14361900), slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation and mining.

AVERAGE DISCHARGE.--27 years, 6,227 ft³/s, 4,511,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290,000 ft³/s Dec. 23, 1964, from slope-area measurement; maximum gage height, 68.03 ft Dec. 23, 1964, from floodmark (backwater from Illinois River); minimum discharge, 608 ft³/s July 9, 10, 1968.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	15	1100	901	811	742	--	--
3	15	1110	919	829	759	--	--
7	15	1130	938	847	776	--	--
14	15	1160	958	863	791	--	--
30	15	1190	982	886	812	--	--
60	15	1250	1050	957	885	--	--
90	15	1320	1110	1010	933	--	--
120	15	1440	1210	1100	1010	--	--
183	15	2020	1670	1530	1420	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1976

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16	87500	148000	190600	245700	--	--
3	16	63600	112400	151100	206900	--	--
7	16	43400	75500	101600	140300	--	--
15	16	28800	46800	60600	80300	--	--
30	16	19800	30200	38200	49600	--	--
60	16	15900	23200	28500	35900	--	--
90	16	13700	19300	23300	28500	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1976

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
59400	106300	181700	236000	307800	--	--	

Systematic n = 16 historical n = 0
Generalized 17b skew = -0.300

ROGUE RIVER BASIN

14372500 EAST FORK ILLINOIS RIVER NEAR TAKILMA, OR

LOCATION.--Lat 42°00'10", long 123°37'30", in SE 1/4 NE 1/4 sec.15, T.41 S., R.8 W., Josephine County, Hydrologic Unit 17100311, Siskiyou National Forest, on right bank 0.3 mi downstream from Dunn Creek (California-Oregon State line), 3.4 mi south of Takilma, and at mile 71.2.

DRAINAGE AREA.--42.3 mi².

PERIOD OF RECORD.--April to September 1926, April 1927 to April 1932, October 1940 to 1987. Monthly discharge only for some periods, published in WSP 1318. Records prior to 1942 water year not equivalent owing to large diversions.

REVISED RECORDS.--WSP 1184: 1948. WSP 1288: 1951(P). WSP 1398: 1946, 1947(M), 1949. WSP 1738: Drainage area (former site).

GAGE.--Water-stage recorder. Elevation of gage is 1,780 ft, from topographic map. Prior to Oct. 31, 1946, nonrecording gage at sites 0.6 mi downstream at different datums. Oct. 31, 1946, to May 13, 1949, nonrecording gage and May 14, 1949, to Aug. 23, 1965, water-stage recorder at site 0.6 mi downstream at datum 1,746.6 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Two small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1942-87), 179 ft³/s, 57.47 in/yr, 129,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s Dec. 22, 1964, gage height, 14.90 ft, present site and datum, from floodmark, from rating curve extended above 4,400 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 4.6 ft³/s Nov. 3, 1960.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1943-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	45	8.2	6.9	6.5	6.1	5.8	5.6
3	45	8.3	7.0	6.5	6.2	5.8	5.6
7	45	8.6	7.3	6.8	6.4	6.1	5.9
14	45	8.9	7.6	7.1	6.7	6.3	6.1
30	45	9.6	8.2	7.7	7.3	7.0	6.8
60	45	11	9.3	8.7	8.3	7.9	7.7
90	45	13	11	10	9.5	9.0	8.8
120	45	16	13	12	11	10	9.6
183	45	39	27	22	19	16	14

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1942-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	46	2960	4580	5580	6760	7560	8300
3	46	2070	3130	3750	4420	4860	5250
7	46	1350	2040	2440	2870	3150	3390
15	46	885	1310	1540	1790	1940	2080
30	46	629	902	1050	1200	1290	1370
60	46	495	695	800	907	972	1030
90	46	422	577	657	737	785	825

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1942-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
2850	4250	6280	7680	9490	10900	12300	

Systematic n = 45 historical n = 0
Weighted skew = -0.070

ROGUE RIVER BASIN

14375000 SUCKER CREEK NEAR HOLLAND, OR

LOCATION.--Lat $42^{\circ}09'00''$, long $123^{\circ}27'50''$, in NE 1/4 sec.25, T.39 S., R.7 W., Josephine County, Hydrologic Unit 17100311, on right bank 1.3 mi downstream from Grayback Creek and 4 mi northeast of Holland.

DRAINAGE AREA.-- 76.2 mi².

PERIOD OF RECORD.--April to August 1940, September 1941 to September 1965. Prior to October 1945 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,777.22 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Sept. 16, 1947, staff gage at several sites within 0.5 mi of present site at various datums. Sept. 16, 1947, to Sept. 19, 1952, staff gage at site 280 ft upstream at datum 0.62 ft higher.

REMARKS.--No regulation. Grayback Canal and 3 small diversions from Grayback and Cave Creeks divert water for domestic use and irrigation upstream from station. Most of return flow from these diversions enters creek upstream from station.

AVERAGE DISCHARGE.--24 years (water years 1942-65), 212 ft³/s, 153,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft³/s Dec. 22, 1964, gage height, 9.28 ft, from floodmark, from estimate of peak based on slope-area survey; minimum observed, 17 ft³/s Sept. 29 to Oct. 3, 1941.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	19	25	22	21	20	--	--
3	19	26	22	21	20	--	--
7	19	26	23	22	21	--	--
14	19	27	24	22	21	--	--
30	19	28	25	23	22	--	--
60	19	31	27	25	24	--	--
90	19	34	30	28	27	--	--
120	19	39	33	30	28	--	--
183	19	69	50	42	36	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1965

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20	2290	3950	5100	6560	7620	--
3	20	1650	2690	3390	4240	4860	--
7	20	1110	1780	2250	2860	3320	--
15	20	796	1190	1460	1810	2070	--
30	20	608	891	1090	1350	1550	--
60	20	512	715	835	971	1060	--
90	20	454	605	680	754	797	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1942-1965

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1610	3220	6160	8500	11800	14600	--	

Systematic n = 24 historical n = 0
Weighted skew = -0.231

ROGUE RIVER BASIN

14375100 SUCKER CREEK BELOW LITTLE GRAYBACK CREEK, NEAR HOLLAND, OR

LOCATION.--Lat 42°09'35", long 123°28'40", in NE 1/4 SW 1/4 sec.24, T.39 S., R.7 W., Josephine County, Hydrologic Unit 17100311, on right bank 500 ft downstream from Little Grayback Creek, 2.0 mi downstream from Grayback Creek, 3.7 mi northeast of Holland, and at mile 9.3.

DRAINAGE AREA.--83.9 mi².

PERIOD OF RECORD.--October 1965 to 1987.

REVISED RECORDS.--WDR OR-86-2: 1985.

GAGE.--Water-stage recorder. Datum of gage is 1,713.92 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Grayback Canal and 3 small diversions from Grayback and Cave Creeks divert water for domestic use and irrigation upstream from station. Return flow from these diversions enters creek upstream from station.

AVERAGE DISCHARGE.--22 years, 241 ft³/s, 39.01 in/yr, 174,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,550 ft³/s Jan. 15, 1974, gage height, 8.20 ft; minimum discharge, 12 ft³/s Oct. 20, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1940, 10.8 ft on Dec. 22, 1964, from floodmark, discharge, 19,300 ft³/s, from estimate based on slope-area measurement of peak flow at site 0.7 mi upstream.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1967-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	21	24	18	16	14	12	--
3	21	24	19	16	14	12	--
7	21	25	19	16	14	13	--
14	21	26	20	17	15	13	--
30	21	27	22	20	18	16	--
60	21	31	25	23	21	19	--
90	21	35	29	26	24	22	--
120	21	39	33	30	28	27	--
183	21	65	48	42	38	34	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1966-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22	2640	4360	5320	6310	6900	--
3	22	1990	3330	4040	4750	5150	--
7	22	1380	2290	2790	3280	3570	--
15	22	964	1530	1830	2130	2310	--
30	22	716	1080	1270	1460	1570	--
60	22	577	841	976	1110	1180	--
90	22	503	734	858	984	1060	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2130	3660	6120	7920	10300	12200	--

Systematic n = 22 historical n = 48
Weighted skew = -0.194

ROGUE RIVER BASIN

14375500 WEST FORK ILLINOIS RIVER BELOW ROCK CREEK, NEAR O'BRIEN, OR

LOCATION.--Lat 42°02'20", long 123°44'50", in SW 1/4 SE 1/4 sec.34, T.40 S., R.9 W., Josephine County, Hydrologic Unit 17100311, Siskiyou National Forest, on left bank 0.2 mi downstream from Rock Creek, 3.0 mi southwest of O'Brien, and at mile 12.8.

DRAINAGE AREA.--42.4 mi².

PERIOD OF RECORD.--September 1954 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is 1,516.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Three small diversions from Elk Creek for irrigation upstream from station.

AVERAGE DISCHARGE.--31 years, 219 ft³/s, 70.14 in/yr, 158,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft³/s Dec. 22, 1964, gage height, 16.05 ft, from rating curve extended above 6,200 ft³/s, on basis of slope-area measurement at gage height 14.79 ft; minimum discharge, 1.5 ft³/s Sept. 2-4, 1974.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1956-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	30	4.3	3.2	2.7	2.3	1.9	1.7
3	30	4.5	3.3	2.8	2.4	2.0	1.7
7	30	4.6	3.5	3.0	2.6	2.2	1.9
14	30	4.9	3.7	3.2	2.8	2.3	2.1
30	30	5.3	4.1	3.6	3.2	2.8	2.5
60	30	6.2	4.7	4.0	3.6	3.1	2.8
90	30	7.5	5.8	5.0	4.5	4.0	3.7
120	30	9.9	7.6	6.8	6.1	5.5	5.2
183	30	24	16	13	11	8.7	7.6

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1955-1985

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31	3520	5140	6270	7780	8940	10100
3	31	2600	3690	4400	5290	5950	6600
7	31	1730	2450	2900	3450	3840	4210
15	31	1170	1630	1910	2230	2450	2650
30	31	874	1180	1350	1540	1660	1770
60	31	692	941	1070	1200	1270	1340
90	31	581	777	874	966	1020	1060

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1955-1985

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
3800	5200	7350	8930	11100	12900	14800	

Systematic n = 31 historical n = 0
Weighted skew = 0.365

ROGUE RIVER BASIN

14377000 ILLINOIS RIVER AT KERBY, OR

LOCATION.--Lat 42°11'50", long 123°39'30", in NW 1/4 sec.9, T.39 S., R.8 W., Josephine County, Hydrologic Unit 17100311, on upstream side of Finch Bridge and 0.5 mi west of Kerby.

DRAINAGE AREA.--364 mi².

PERIOD OF RECORD.--March 1926 to September 1961. Monthly discharge only March 1926, published in WSP 1318.

GAGE.--Wire-weight gage read once or twice daily. Datum of gage is 1,232.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 9, 1928, staff gage at site 0.5 mi upstream at different datums. May 9, 1928, to Nov. 2, 1934, staff gage at present site at different datums. Nov. 3, 1934, to Sept. 30, 1950, water-stage recorder at site 1 mi downstream at datum 16.76 ft lower. Oct. 1, 1950 to Dec. 28, 1958, staff gage at present site at datum 2.00 ft higher.

REMARKS.--No regulation. Diversions for irrigation of 5,500 acres upstream from station. Some diversions for mining during winter months.

AVERAGE DISCHARGE.--35 years (water years 1927-61), 1,209 ft³/s, 875,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft³/s Dec. 22, 1955, gage height, 16.4 ft, present datum, from floodmark, from rating curve extended above 9,600 ft³/s on basis of slope-area measurement at gage height 15.7 ft, present datum; minimum observed, 9.6 ft³/s Aug. 16, 1959.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1928-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	34	27	19	15	13	10	9.0
3	34	28	20	16	13	11	9.3
7	34	29	20	17	14	12	10
14	34	30	22	18	16	13	12
30	34	32	23	20	17	15	13
60	34	36	26	22	20	17	16
90	34	42	31	26	23	21	19
120	34	58	41	34	30	25	23
183	34	190	111	81	61	44	35

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1927-1961

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	35	18000	27800	34200	42300	48100	53800
3	35	12900	19600	23700	28600	31800	34900
7	35	8860	13100	15500	18300	20100	21700
15	35	6050	8610	10100	11700	12800	13800
30	35	4230	6120	7370	8910	10000	11100
60	35	3380	4770	5620	6620	7310	7950
90	35	2910	4060	4780	5640	6240	6820

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1927-1961

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
15600	25000	38100	46600	56800	64200	71200	

Systematic n = 35 historical n = 0
Weighted skew = -0.404

ROGUE RIVER BASIN

14377100 ILLINOIS RIVER NEAR KERBY, OR

LOCATION.--Lat $42^{\circ}13'55''$, long $123^{\circ}39'45''$, in SE 1/4 SE 1/4 sec.29, T.38 S., R.8 W., Josephine County, Hydrologic Unit 17100311, Siskiyou National Forest, on right bank 1.6 mi upstream from Josephine Creek, 2.5 mi northwest of Kerby, and at mile 50.3.

DRAINAGE AREA.--380 mi².

PERIOD OF RECORD.--October 1961 to 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,198.8 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 28, 1965, water-stage recorder, and Jan. 28 to Sept. 30, 1965, nonrecording gage 700 ft downstream at datum 2.99 ft lower.

REMARKS.--No regulation. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--26 years, 1,331 ft³/s, 47.57 in/yr, 964,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,200 ft³/s Dec. 22, 1964, gage height, 45.28 ft, from floodmark, site and datum then in use, from rating curve extended above 30,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 14 ft³/s Aug. 11, 13, 14, 1977, Sept. 10, 11, 1986.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1963-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	25	30	22	19	17	14	13
3	25	31	23	20	17	15	13
7	25	32	24	21	18	16	14
14	25	34	26	22	19	17	15
30	25	36	27	24	21	19	18
60	25	41	31	27	24	22	20
90	25	50	38	33	30	27	26
120	25	71	55	49	45	41	38
183	25	196	142	122	109	96	89

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1962-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	26	19500	29100	34900	41300	45600	49500
3	26	14000	21100	25600	31100	35000	38600
7	26	9640	14500	17600	21200	23700	26000
15	26	6640	9640	11400	13400	14700	15800
30	26	5040	6800	7630	8410	8850	9180
60	26	4020	5400	6030	6580	6870	7080
90	26	3410	4490	4960	5360	5560	5700

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1962-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
17600	24900	36600	45300	57500	67600	78400	

Systematic n = 26 historical n = 0
Weighted skew = 0.334

ROGUE RIVER BASIN

14377500 DEER CREEK NEAR DRYDEN, OR

LOCATION.--Lat 42°15'50", long 123°27'00", near center of sec.18, T.38 S., R.6 W., Josephine County, Hydrologic Unit 17100311, on left bank 500 ft downstream from confluence of North and South Forks and 5 mi east of Dryden.

DRAINAGE AREA.--22.0 mi².

PERIOD OF RECORD.--December 1941 to September 1956. Monthly discharge only for December 1941 to September 1945, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,650.10 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Sept. 12, 1946, staff gage at same site at datum 1.26 ft higher.

REMARKS.--No regulation. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--14 years (water years 1943-56), 74.1 ft³/s, 53,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 5,000 ft³/s Jan. 18, 1953, gage height, 7.61 ft, backwater from logs; maximum gage height, 7.92 ft Oct. 29, 1950; minimum discharge, 0.9 ft³/s Sept. 20-24, 1951, Sept. 6-10, 1955.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1947-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%	
1	10	1.4	1.1	0.9	--	--	--	
3	10	1.4	1.1	0.9	--	--	--	
7	10	1.5	1.1	1.0	--	--	--	
14	10	1.6	1.2	1.1	--	--	--	
30	10	1.9	1.4	1.2	--	--	--	
60	10	2.3	1.7	1.4	--	--	--	
90	10	2.8	2.0	1.7	--	--	--	
120	10	3.9	2.7	2.3	--	--	--	
183	10	9.4	5.9	4.8	--	--	--	

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1946-1956

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1	11	1480	2460	3120	--	--	--	
3	11	1030	1680	2090	--	--	--	
7	11	668	1050	1270	--	--	--	
15	11	428	673	821	--	--	--	
30	11	287	456	575	--	--	--	
60	11	221	333	406	--	--	--	
90	11	188	275	328	--	--	--	

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1941-1956

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1230	2060	3370	4320	5590	--	--	

Systematic n = 15 historical n = 0
Generalized 17b skew = -0.154

ROGUE RIVER BASIN

14378000 ILLINOIS RIVER NEAR SELMA, OR

LOCATION.--Lat $42^{\circ}22'45''$, long $123^{\circ}48'40''$, in SW 1/4 sec. 6, T. 37 S., R. 9 W., Josephine County, Hydrologic Unit 17100311, on right bank 0.1 mi upstream from Panther Creek, 0.2 mi downstream from Briggs Creek, 12 mi northwest of Selma, and at mile 32.3.

DRAINAGE AREA.--665 mi², includes that of Panther Creek.

PERIOD OF RECORD.--October 1956 to January 1968.

GAGE.--Water-stage recorder. Datum of gage is 829.18 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1967, water-stage recorder at same site and datum.

REMARKS.--No regulation. Many diversions upstream from station for irrigation, mining, and logpond operation. Records include flow of Panther Creek.

AVERAGE DISCHARGE.--11 years, 2,335 ft³/s, 1,690,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft³/s Dec. 22, 1964, gage height, 34.0 ft, from floodmark, from rating curve extended above 33,000 ft³/s on basis of slope-area measurement at gage height 25.64 ft, and comparison of peak flows at station near Kerby and Rogue River near Agness; minimum, 61 ft³/s Aug. 28, Sept. 2, 1959.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1958-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	10	73	67	64	--	--	--
3	10	75	68	65	--	--	--
7	10	76	68	65	--	--	--
14	10	77	70	66	--	--	--
30	10	83	72	67	--	--	--
60	10	96	82	75	--	--	--
90	10	108	94	88	--	--	--
120	10	132	110	102	--	--	--
183	10	358	233	183	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1957-1967

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11	36600	54500	73200	--	--	--
3	11	26600	39700	52400	--	--	--
7	11	18800	27900	35600	--	--	--
15	11	12500	17900	22300	--	--	--
30	11	8810	12500	15500	--	--	--
60	11	6720	9020	10900	--	--	--
90	11	5690	7560	9030	--	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1957-1967

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
38800	57000	81600	97400	--	--	--	

Systematic n = 11 historical n = 0
Generalized 17b skew = -0.244

ROGUE RIVER BASIN

14378200 ILLINOIS RIVER NEAR AGNESS, OR

LOCATION.--Lat $42^{\circ}31'15''$, long $124^{\circ}02'35''$, in SW 1/4 NW 1/4 sec.29, T.35 S., R.11 W., Curry County, Hydrologic Unit 17100311, on right bank 0.6 mi downstream from Lawson Creek, 1.4 mi upstream from Fox Creek, 2.8 mi southeast of Agness, and at mile 3.0.

DRAINAGE AREA.--988 mi², at cable section 2.1 mi downstream where all measurements are made.

PERIOD OF RECORD.--October 1960 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 125.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Many diversions upstream from station for irrigation, mining, and logpond operation. Records include flow of Fox Creek. All records given herein are for measuring site.

AVERAGE DISCHARGE.--21 years, 4,094 ft³/s, 56.27 in/yr, 2,966,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 225,000 ft³/s Dec.22, 1964, estimated on basis of runoff ratio with station near Selma; maximum gage height, 56.91 ft Dec. 22, 1964, from floodmark (backwater from Rogue River); minimum discharge, 125 ft³/s Sept. 14-16, 1977.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1962-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	20	161	138	127	120	112	--
3	20	162	139	128	120	112	--
7	20	165	140	129	121	112	--
14	20	169	144	133	124	115	--
30	20	178	153	142	135	127	--
60	20	200	168	154	145	136	--
90	20	229	196	185	178	172	--
120	20	287	240	222	211	200	--
183	20	611	451	388	344	302	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1961-1981

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	21	62100	95100	113800	133800	146300	--
3	21	46700	72000	87300	104400	115800	--
7	21	31900	49500	60400	73000	81700	--
15	21	20700	31000	37200	44300	49100	--
30	21	15700	21700	24600	27300	28900	--
60	21	12800	17400	19400	21100	21900	--
90	21	10900	14500	16000	17200	17700	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1961-1981

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
53900	79700	114100	136000	162500	181400	--	

Systematic n = 21 historical n = 0
Generalized 17b skew = -0.300

CHETCO RIVER BASIN

14400000 CHETCO RIVER NEAR BROOKINGS, OR

LOCATION.--Lat 42°07'25", long 124°11'10", in SE 1/4 sec.12, T.40 S., R.13 W., Curry County, Hydrologic Unit 17100312, on right bank 16 ft upstream from bridge, 0.5 mi upstream from Elk Creek, 6.8 mi northeast of Brookings, and at mile 10.7.

DRAINAGE AREA.--271 mi².

PERIOD OF RECORD.--October 1969 to 1987.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft, from topographic map.

REMARKS.--No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 2,364 ft³/s, 118.46 in/yr, 1,713,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,800 ft³/s Jan. 16, 1971, gage height, 27.45 ft; minimum discharge, 45 ft³/s Oct. 21-23, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 32.25 ft, from high-water mark on bridge pier, discharge, 85,400 ft³/s, from rating curve extended above 45,000 ft³/s.

STATISTICAL SUMMARIES

[n = number of values used to compute statistics]

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1971-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	17	67	55	51	48	--	--
3	17	68	56	51	48	--	--
7	17	69	56	52	49	--	--
14	17	72	58	53	50	--	--
30	17	77	63	57	53	--	--
60	17	92	70	63	58	--	--
90	17	114	85	75	68	--	--
120	17	157	111	96	86	--	--
183	17	390	252	193	151	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1970-1987

PERIOD (CON- SECU- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18	30100	39700	44200	48600	--	--
3	18	22700	30600	34900	39400	--	--
7	18	16600	22300	25200	28200	--	--
15	18	11600	15600	17700	20000	--	--
30	18	9160	11700	12700	13600	--	--
60	18	7570	9630	10400	10900	--	--
90	18	6220	7860	8430	8820	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1965-1987

DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
25500	37700	54100	64400	77000	--	--

Systematic n = 18 historical n = 24
Generalized 17b skew = -0.300

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