

**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 AND HIGH FLOW AND INSTANTANEOUS PEAK FLOW

--
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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 ungaged 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°04'20", long 119°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°11'21", long 120°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 Twelvemile 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 50% | 5 20% | 10 10% | 20 5% | 50 2% | 100 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 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

SILVER LAKE BASIN

10390001 SILVER CREEK NEAR SILVER LAKE, OR

LOCATION.--Lat 43°06'50", long 121°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

MALHEUR AND HARNEY LAKES BASIN

10393500 SILVIES RIVER NEAR BURNS, OR

LOCATION.-- Lat 43°42'55", long 119°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°47'28", long 118°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°41'30", long 119°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 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 | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°14'14", long 120°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.

GAGE.--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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 111 | 195 | 253 | 328 | 382 | 435 |
| 3 | 50 | 103 | 178 | 229 | 295 | 343 | 390 |
| 7 | 50 | 91 | 152 | 193 | 245 | 284 | 321 |
| 15 | 50 | 78 | 124 | 155 | 193 | 220 | 246 |
| 30 | 50 | 63 | 102 | 128 | 160 | 184 | 207 |
| 60 | 50 | 53 | 85 | 105 | 130 | 148 | 164 |
| 90 | 50 | 47 | 75 | 91 | 110 | 123 | 134 |

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°44'25", long 121°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°35'05", long 121°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°34'15", long 121°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- 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 | -- | -- | -- | -- | -- | -- | -- |
| 3 | -- | -- | -- | -- | -- | -- | -- |
| 7 | -- | -- | -- | -- | -- | -- | -- |
| 14 | -- | -- | -- | -- | -- | -- | -- |
| 30 | -- | -- | -- | -- | -- | -- | -- |
| 60 | -- | -- | -- | -- | -- | -- | -- |
| 90 | -- | -- | -- | -- | -- | -- | -- |
| 120 | -- | -- | -- | -- | -- | -- | -- |
| 183 | -- | -- | -- | -- | -- | -- | -- |

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

| PERIOD (CON- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°08'00", long 121°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 OF 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°10'15", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°39'17", long 117°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°47'05", long 118°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 Warm Springs 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 Warm Springs 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 Warm Springs 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°56'54", long 118°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 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 | 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°54'28", long 118°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 Juntura, 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

MALHEUR RIVER BASIN

13220500 MALHEUR RIVER NEAR HOPE, OR

LOCATION.--Lat 43°56'40", long 117°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°57'30", long 117°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°58'50", long 117°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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

BURNT RIVER BASIN

13269300 NORTH FORK BURNT 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 50% | 5 20% | 10 10% | 20 5% | 50 2% | 100 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 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°24'25", long 118°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

BURNT RIVER BASIN

13273000 BURNT 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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

BURNT RIVER BASIN

13274200 BURNT RIVER NEAR BRIDGEPORT, OR

LOCATION.--Lat 44°32'27", long 117°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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

BURNT RIVER BASIN

13275000 BURNT 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°46'06", long 117°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, 29, 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 1% |
| 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°52'50", long 117°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°33'45", long 116°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- SEC- 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- SEC- 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°20'47", long 118°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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

| DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT | | | | | | |
|---|----------|----------|-----------|----------|----------|-----------|
| 1.25 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 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°30'45", long 117°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°26'00", long 117°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| 305 | 427 | 590 | 694 | -- | -- | -- | |

Systematic n = 13 historical n = 0
Generalized 17b skew = -0.158

GRANDE RONDE RIVER BASIN

13325001 EAST FORK WALLOWA 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°20'15", long 117°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

GRANDE RONDE RIVER BASIN

13330500 BEAR CREEK NEAR WALLOWA, OR

LOCATION.--Lat 45°31'37", long 117°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 50% | 5 20% | 10 10% | 20 5% | 50 2% | 100 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 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°49'48", long 118°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°53'06", long 118°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°30'24", long 118°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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% |
| 1 | 54 | 432 | 656 | 863 | 1210 | 1550 | 1960 |
| 3 | 54 | 421 | 624 | 805 | 1100 | 1380 | 1710 |
| 7 | 54 | 391 | 563 | 718 | 972 | 1210 | 1500 |
| 15 | 54 | 356 | 485 | 595 | 768 | 923 | 1110 |
| 30 | 54 | 330 | 423 | 491 | 585 | 661 | 743 |
| 60 | 54 | 304 | 360 | 391 | 425 | 447 | 467 |
| 90 | 54 | 266 | 314 | 339 | 364 | 379 | 392 |

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°39'10", long 118°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°40'38", long 119°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°32'48", long 119°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°54'11", long 119°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°20'30", long 118°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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

JOHN DAY RIVER BASIN

14038530 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 100 |
| | | 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 | 100 |
| | | 50% | 20% | 10% | 4% | 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% | 4% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 ft³/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°48'50", long 119°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR 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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°49'06", long 121°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 mi², hydrologic drainage boundry 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 ft³/s, 45,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 178 ft³/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 ft³/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°49'17", long 121°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°48'48", long 121°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°47'03", long 121°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 ft³/s, 17,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59 ft³/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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°45'13", long 121°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°42'57", long 121°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°44'20", long 121°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°47'48", long 121°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

DESCHUTES RIVER BASIN

14061000 BIG MARSH CREEK AT HOEY RANCH, NEAR CRESCENT, OR

LOCATION.--Lat 43°28'40", long 121°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, Apr.1 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

DESCHUTES RIVER BASIN

14064500 DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OR

LOCATION.--Lat 43°55'49", long 121°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

DESCHUTES RIVER BASIN

14066000 DESCHUTES RIVER BELOW LAVA ISLAND, NEAR BEND, OR

LOCATION.--Lat 44°00'00", long 121°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 3,825 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% |
| -- | -- | -- | -- | -- | -- | -- |

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

DESCHUTES RIVER BASIN

14070500 DESCHUTES RIVER BELOW BEND, OR

LOCATION.--Lat 44°04'59", long 121°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

| DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE 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

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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°06'50", long 120°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°29'33", long 121°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 | 3040 | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°25'35", long 121°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 Simtustus 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 Wickiup 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°51'24", long 121°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°14'30", long 121°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.--Diversion 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 1% |
| 1 | 69 | 107 | 91 | 82 | 76 | 69 | 64 |
| 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°37'20", long 120°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 Wickiup 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°24'30", long 121°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°18'50", long 121°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 ft/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°15'55", long 121°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°23'30", long 122°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°19'10", long 121°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°27'30", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°24'55", long 122°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°43'20", long 122°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°45'45", long 122°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°46'05", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°56'45", long 122°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% |
| 1 | 23 | 25 | 21 | 19 | 17 | 16 | -- |
| 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% |
| 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°56'40", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°58'10", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

WILLAMETTE RIVER BASIN

14152500 COAST FORK WILLAMETTE RIVER AT LONDON, OR

LOCATION.--Lat 43°38'30", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°44'10", long 122°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°47'35", long 122°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°44'40", long 122°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 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,520 ft³/s Dec. 28, 1945, gage height, 10.4 ft from floodmark, from rating curve extended above 2,400 ft³/s; minimum, 3 ft³/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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°02'45", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°20'05", long 122°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°16'05", long 122°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°10'45", long 122°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°02'50", long 122°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 mi² 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 ft³/s, 54.15 in/yr, 462,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s Dec. 22, 1964, gage height, 20.06 ft, from floodmark, from rating curve extended above 7,600 ft³/s, on basis of slope-area measurement of peak flow; minimum discharge, 171 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 1959-1987

| PERIOD (CON- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR 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°13'05", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°10'55", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 1% |
| 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 1% |
| 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°09'45", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | |

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

WILLAMETTE RIVER BASIN

14162500 MCKENZIE RIVER NEAR VIDA, OR

LOCATION.--Lat 44°07'30", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°05'34", long 122°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 logponds 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°03'00", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°01'19", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°07'25", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°21'05", long 122°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 Calapooya 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°38'20", long 123°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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

WILLAMETTE RIVER BASIN

14178000 NORTH SANTIAM RIVER BELOW BOULDER CREEK, NEAR DETROIT, OR

LOCATION.--Lat 44°42'25", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 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% |
| 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°45'10", long 122°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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°47'30", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°47'20", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

WILLAMETTE RIVER BASIN

14188800 THOMAS CREEK NEAR SCIO, OR

LOCATION.--Lat 44°42'42", long 122°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°42'55", long 122°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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°43'10", long 123°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°54'55", long 123°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /s, FOR 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°08'35", long 123°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°58'15", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°21'55", long 123°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 McMINNVILLE, 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°22'15", long 123°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°22'10", long 123°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°17'57", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°14'40", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 as 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°14'00", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

WILLAMETTE RIVER BASIN

14202980 SCOGGINS CREEK BELOW HENRY HAGG LAKE, NEAR GASTON, OR

LOCATION.--Lat 45°28'10", long 123°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 Scoggin 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°33'20", long 123°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 Mountaindale.

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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°26'50", long 122°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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 23 | 9100 | 13400 | 16400 | 20500 | 23600 | -- |
| 3 | 23 | 8830 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°18'00", long 122°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 mi³ at gage, 936 mi³ 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

WILLAMETTE RIVER BASIN

14211500 JOHNSON CREEK AT SYCAMORE, OR

LOCATION.--Lat 45°28'40", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

BEAR CREEK BASIN

14248700 BEAR CREEK NEAR SVENSEN, OR

LOCATION.--Lat 46°06'48", long 123°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- SEC- 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 | -- | -- | -- | -- | -- | -- | -- |
| 3 | -- | -- | -- | -- | -- | -- | -- |
| 7 | -- | -- | -- | -- | -- | -- | -- |
| 14 | -- | -- | -- | -- | -- | -- | -- |
| 30 | -- | -- | -- | -- | -- | -- | -- |
| 60 | -- | -- | -- | -- | -- | -- | -- |
| 90 | -- | -- | -- | -- | -- | -- | -- |
| 120 | -- | -- | -- | -- | -- | -- | -- |
| 183 | -- | -- | -- | -- | -- | -- | -- |

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW BASED ON PERIOD OF RECORD 1966-1975

| PERIOD (CON- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°29'05", long 123°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°26'25", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 | 2.0 | 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 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 MCMINNVILLE, 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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°42'55", long 123°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- SEC- UTIVE 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- SEC- UTIVE 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°34'35", long 123°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°22'45", long 123°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°20'15", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°30'50", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°30'55", 123°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°32'20", long 123°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°32'05", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°09'40", long 123°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°57'15", long 122°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- SEC- 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 | 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- SEC- 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 | 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 | | | | | | |
|---|------|------|-------|-------|-------|-------|
| 1.25 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% |
| 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°55'50", long 122°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°53'25", long 122°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°58'05", long 123°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°58'55", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°55'25", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 1% |
| 1 | 31 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°02'20", long 123°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°07'50", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°08'00", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°13'10", long 123°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°11'10", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°17'45", long 122°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°19'40", long 123°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

UMPQUA RIVER BASIN

14317600 ROCK CREEK NEAR GLIDE, OR

LOCATION.--Lat 43°20'45", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°18'20", long 123°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°23'20", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°16'20", long 123°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

UMPUA RIVER BASIN

14319900 CALAPOOYA CREEK AT NONPAREIL, OR

LOCATION.--Lat 43°25'04", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°24'10", long 123°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°35'10", long 123°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°34'40", long 124°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 mi² 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 ft³/s, 244,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft³/s Dec. 26, 1964, elevation 16.46 ft at base gage, 18.78 ft at auxiliary gage; minimum, 2.0 ft³/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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°28'35", long 124°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 1956-1970

| 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°53'30", long 124°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°43'50", long 122°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°42'25", long 122°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°41'20", long 122°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°44'05", long 122°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- UTIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°42'00", long 122°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°32'25", long 122°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 50% | 5 20% | 10 10% | 20 5% | 50 2% | 100 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 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°39'20", long 122°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°46'25", long 122°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°42'40", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°39'50", long 122°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°31'30", long 122°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- SEC- 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 | 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- SEC- 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 | 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°20'40", long 122°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°24'30", long 122°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 50% | 5 20% | 10 10% | 20 5% | 50 2% | 100 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 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°22'35", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°24'10", long 122°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- SEC- 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 | 56 | 27 | 19 | 16 | 13 | 11 | 9.9 |
| 3 | 56 | 27 | 19 | 16 | 13 | 11 | 9.9 |
| 7 | 56 | 28 | 19 | 16 | 14 | 11 | 9.9 |
| 14 | 56 | 28 | 20 | 17 | 14 | 12 | 10 |
| 30 | 56 | 30 | 21 | 18 | 15 | 13 | 11 |
| 60 | 56 | 34 | 25 | 21 | 18 | 16 | 14 |
| 90 | 56 | 39 | 29 | 24 | 21 | 18 | 16 |
| 120 | 56 | 43 | 32 | 27 | 24 | 21 | 19 |
| 183 | 56 | 50 | 38 | 33 | 29 | 25 | 23 |

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW BASED ON PERIOD OF RECORD 1912-1985

| PERIOD (CON- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°28'30", long 122°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 1918-1926

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

| PERIOD (CON- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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 1917-1926

| PERIOD (CON- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 0.0 | -- |

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 | 1650 | 2070 |
| 3 | 25 | 262 | 557 | 817 | 1220 | 1580 | 1980 |
| 7 | 25 | 234 | 479 | 689 | 1010 | 1280 | 1590 |
| 15 | 25 | 177 | 348 | 499 | 739 | 956 | 1210 |
| 30 | 25 | 127 | 230 | 316 | 446 | 561 | 691 |
| 60 | 25 | 97 | 164 | 219 | 299 | 367 | 443 |
| 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°09'10", long 122°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°19'40", long 122°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 1% | |
| -- | -- | -- | -- | -- | -- | -- | -- |

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

ROGUE RIVER BASIN

14361500 ROGUE RIVER AT GRANTS PASS, OR

LOCATION.--Lat 42°25'50", long 123°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°03'50", long 123°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°10'40", long 123°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°16'00", long 123°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

| DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT | | | | | | | |
|---|----------|----------|-----------|----------|----------|-----------|--|
| 1.25 80% | 2 50% | 5 20% | 10 10% | 25 4% | 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°21'15", long 123°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- SEC- UTIVE 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 | 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- SEC- UTIVE 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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°38'30", long 123°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°34'50", long 124°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°09'00", long 123°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- SEC- 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 | 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- SEC- 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 | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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°13'55", long 123°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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR INDICATED 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- SEC- TIVE DAYS) | n | DISCHARGE, IN FT ³ /S, FOR 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°22'45", long 123°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 80% | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 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°31'15", long 124°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 | 5 | 10 | 20 | 50 | 100 |
| | | 50% | 20% | 10% | 5% | 2% | 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 | 5 | 10 | 25 | 50 | 100 |
| | | 50% | 20% | 10% | 4% | 2% | 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 | 2 | 5 | 10 | 25 | 50 | 100 | |
| 80% | 50% | 20% | 10% | 4% | 2% | 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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