

# **STATISTICAL SUMMARIES OF STREAMFLOW DATA IN OREGON Volume 2. Western Oregon**

**By John Friday and Suzanne J. Miller**

---

**U.S. GEOLOGICAL SURVEY  
OPEN-FILE REPORT 84-454-A**

**Prepared in cooperation with  
Oregon Water Resources Department**



**Portland, Oregon  
1984**

UNITED STATES DEPARTMENT OF THE INTERIOR

WILLIAM P. CLARK, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

Cover photo: Dog Creek near Idleyld

---

For additional information  
write to:

District Chief  
U.S. Geological Survey  
847 N.E. 19th Ave., Suite 300  
Portland, Oregon 97232

Copies of this report can  
be purchased from:

Open-File Services Section  
Western Distribution Branch  
Box 25425, Federal Center  
Denver, Colorado 80225  
(Telephone: (303) 776-7476)

## CONTENTS

	Page
Abstract-----	1
Introduction-----	1
Streamflow records-----	2
Statistical summaries-----	2
Monthly and annual mean discharges-----	2
Magnitude and probability of annual low flows-----	3
Magnitude and probability of annual high flows-----	3
Magnitude and probability of instantaneous peak flows-----	3
Duration table of daily mean flows-----	4
References-----	4
List of gaging stations, in downstream order-----	5
Gaging-station descriptions and statistical tables-----	11
Index-----	245

## ILLUSTRATIONS

[Plate is in pocket]

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

## METRIC CONVERSION TABLE

To convert inch-pound units [in this report] to metric units, multiply by the following factors:

<u>Multiply inch-pound unit</u>	<u>By</u>	<u>To obtain metric unit</u>
acre	0.4047	hectometer (hm)
acre-foot per year (acre-ft/yr)	0.001233	cubic hectometers per year (hm <sup>3</sup> /yr)
cubic foot per second (ft <sup>3</sup> /s and CFS)	0.02832	cubic meter per second (m <sup>3</sup> /s)
foot (ft)	0.3048	meter (m)
inch per year (in/yr)	25.40	millimeter per year (mm/yr)
mile (mi)	1.609	kilometer (km)
square mile (mi <sup>2</sup> )	2.590	square kilometer (km <sup>2</sup> )

# STATISTICAL SUMMARIES OF STREAMFLOW DATA IN OREGON

## VOLUME 2. WESTERN OREGON

--

By John Friday and Suzanne J. Miller

--

### ABSTRACT

Statistical summaries of streamflow data at 212 stream-gaging sites are presented in this report to aid in appraising the hydrology of river basins in Western Oregon. Records for 21 gaging stations were compiled into separate periods owing to changes in regulation during the period of data collection. The periods before and after regulation are presented for comparison.

A brief station description is given describing the physical and operational features for each gaging station. Following the station description are tables of monthly and annual flow statistics, flood frequency data, low-flow and high-flow frequency data, and flow-duration information.

### INTRODUCTION

This is the second of two volumes of statistical summaries of streamflow data collected at gaging stations in Oregon. Volume 1 contains data from 123 gaging stations located in the area east of the divide of the Cascade Range. Volume 2 contains data from 212 gaging stations in the remainder of the State. It is anticipated these reports will be updated about every five years.

This report was prepared in cooperation with the Oregon Water Resources Department (OWRD). The purpose is to provide water-resource managers with a knowledge of streamflow characteristics based on historical data. For the purpose of this report, 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 it had to be a significant indicator of flow availability. For example, a gage at the outlet of a natural lake would have little hydrologic transferability (due to storage of water in the lake), but the data would be a good indication of low-flow availability as well as flood events.

Stations on canals, reservoirs, or combined-flow stations, were not used in this report. Data for combined-flow stations include diverted flow which may or may not reenter the stream downstream from the gage. A map showing the location of gaging stations used in this report is enclosed in a packet in the back of the book.

## STREAMFLOW RECORDS

Both active and discontinued gaging stations having a minimum of 10 years of daily-mean discharge values were used in this report. For active stations, the period of record extends to the end of the 1982 water year (ending on September 30). A brief station description showing the physical and operational features of the gaging station precedes the statistical summaries for each station. Except for paragraphs describing revised records and extremes for a specific year, the station descriptions are identical to the last-published version in the annual release "Water Resources Data - Oregon" (U.S. Geological Survey, 1983). A detailed explanation of the manuscript data and a definition of terms is given in that report.

Sometimes 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 this occurs during the operation of a gaging station, the statistical summaries must reflect both natural and altered states of flow, providing there are at least 10 years of data for each state. There are 21 such stations in this report.

## STATISTICAL SUMMARIES

The tables of statistical data include monthly and annual mean discharges, magnitude and probability of annual low flows, magnitude and probability of annual high flows, magnitude and probability of instantaneous peak flows, and a duration table of daily mean flows. The statistics were generated by using computer programs available from the U.S. Geological Survey's "National Water Data Storage and Retrieval System" (WATSTORE).

### Monthly and Annual Mean Discharges

This statistical summary is from computer program W4422 by Price and Meeks (1977). 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 a continuous period of record (see the PERIOD OF RECORD paragraph in the station description for fragmentary records).

The standard deviation shown in the table is a measure of the variability of flows occurring during a given month during the period of record. The value represents the spread in discharges (from the mean value) that could be expected to occur two-thirds of the time based on the distribution of data during the sampling period. The coefficient of variation is the ratio of the standard deviation to the mean.

The annual mean shown in the table will sometimes vary from the average discharge shown in the manuscript because the annual mean is based only on years for which daily-mean discharge values are available, while the average discharge includes years having estimated monthly values.

### Magnitude and Probability of Annual Low Flows

This summary is from computer program A969 by Meeks (1977). The computation period 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 recurrence interval was generally extended to twice the period of record for stations having less than 40 years of record. If 40 or more years of record were available, the recurrence interval was extended to 100 years (a flow having a 1 percent chance of not being exceeded in any given year).

The table shows the amount of flow that probably would not be exceeded, during specified periods, for the indicated recurrence intervals. The recurrence intervals are also shown as nonexceedance probabilities which are expressed as a percent chance of the event not being exceeded 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 Annual High Flows

This summary is also from computer program A969 (Meeks, 1977). The period of record is based on water years having daily-mean discharge data. The recurrence intervals are extended in the same manner as the low-flow frequency. The table shows maximum flows that could be equalled or exceeded, during specified periods, for the indicated recurrence intervals. Occasionally, the values shown for a 1-day period will exceed the instantaneous peaks shown for the same recurrence intervals in the adjacent table. The reason for this is that different periods of record are involved. Quite often peak data are documented outside the period of systematic data collection.

### Magnitude and Probability of Instantaneous Peak Flow

This summary is from computer program J407 by Kirby (1981). The period of record shows the first and last water years for which annual peak flows were documented. The table shows the magnitude of instantaneous peak flows for selected recurrence intervals as computed from a log-Pearson Type III probability distribution of gaging-station data. For stations having less than 25 years of record, the frequency curve was based on a generalized skew coefficient taken from the U.S. Water Resources Council Bulletin 17B (1981). For stations having more than 25 years of data, the skew coefficient was determined by weighing the generalized skew against the actual station skew as recommended by the Council. The skew used for a particular station is shown at the bottom of the table.

Flood-frequency data were not determined at gaging stations immediately downstream from dams and reservoirs. At stations where low-flow statistics are divided into two periods due to the construction of a bypass structure, the flood-frequency data are computed for the entire period of record.

### Duration Table of Daily Mean Flow

This summary is from computer program A969 by Meeks (1977). The period of record indicates the first and last water year where daily-mean values of discharge were available for analysis. The table shows the amount of flow that was equalled or exceeded for the indicated percent of the time.

### REFERENCES

- Kirby, William, 1981, Annual flood frequency analysis using U.S. Water Resources Council guidelines (Program J407), chapter I, section C of WATSTORE user's guide: U.S. Geological Survey Open-File Report 76-435, v. 4, p. C-1 to C-57.
- Meeks, W. C., 1977, Daily values statistics (Program A969), chapter IV, section G, of WATSTORE user's guide: U.S. Geological Survey Open-File Report 75-426, v. 1, p. G-1 to G-37.
- Price, W. E., Jr., and Meeks W. C., 1977, Daily values monthly and annual statistics (Program W4422), chapter IV, section F, of WATSTORE user's guide: U.S. Geological Survey Open-File Report 75-426, v. 1, p. F-1 to F-46.
- U.S. Geological Survey, 1983, Water resources data, Oregon, water year 1982, volume 2. Western Oregon; Portland, Oregon, U.S. Geological Survey Water-Data Report OR-82-2, 419 p.
- U.S. Water Resources Council, 1981, Guidelines for determining flood flow frequency [revised]: Hydrology Committee Bulletin 17B, 28 p.

DOWNSTREAM ORDER OF GAGING STATIONS  
IN WESTERN OREGON

	PAGE
Lower Columbia River Basin	
Sandy River Basin	
Sandy River	
Little Zigzag River at Twin Bridges, nr. Rhododendron ..	11
Salmon River near Government Camp .....	12
Salmon River below Linney Creek .....	13
Salmon River at Welches .....	14
Salmon River above Boulder Creek, near Brightwood .....	15
Sandy River near Marmot .....	16
Bull Run River	
Blazed Alder Creek near Rhododendron .....	17
Bull Run River near Multnomah Falls .....	18
North Fork Bull Run River near Multnomah Falls .....	19
Bull Run River below Lake Ben Morrow .....	20
South Fork Bull Run River	
Cedar Creek near Brightwood .....	21
Little Sandy River near Bull Run .....	22
Sandy River below Bull Run River, near Bull Run .....	23
Willamette River Basin	
Middle Fork Willamette River near Oakridge .....	24
Hills Creek above Hills Creek Reservoir, near Oakridge .	25
Middle Fork Willamette River ab. Salt Cr., nr. Oakridge ..	26
Salt Creek near Oakridge .....	28
Salmon Creek near Oakridge .....	29
Waldo Lake Outlet near Oakridge .....	30
North Fork of Middle Fork Willamette River near Oakridge	31
Middle Fork Willamette River below No. Fork, nr. Oakridge.	32
Middle Fork Willamette River near Dexter .....	34
Fall Creek near Lowell .....	35
Winberry Creek near Lowell .....	36
Fall Creek below Winberry Creek, near Fall Creek .....	37
Little Fall Creek near Fall Creek .....	39
Middle Fork Willamette River at Jasper .....	40
Coast Fork Willamette River at London .....	41
Coast Fork Willamette River below Cottage Grove Dam ....	42
Row River above Pitcher Creek, near Dorena .....	43
Row River near Cottage Grove .....	44
Mosby Creek near Cottage Grove .....	46
Mosby Creek at mouth, near Cottage Grove .....	47
Coast Fork Willamette River at Saginaw .....	48
Coast Fork Willamette River near Goshen .....	49
Willamette River at Springfield .....	50
McKenzie River at outlet of Clear Lake .....	51
Smith River ab. Smith River Res., nr. Belknap Springs.	52
McKenzie River bl. Trail Bridge Dam, near Belknap Spgs..	53



# DOWNSTREAM ORDER OF GAGING STATIONS IN WESTERN OREGON--CONTINUED

	PAGE
Lower Columbia River Basin--Continued	
Willamette River Basin--Continued	
McKenzie River Basin--Continued	
McKenzie River at McKenzie Bridge .....	54
South Fork McKenzie River above Cougar Lake, near Rainbow .....	56
South Fork McKenzie River near Rainbow .....	57
Blue River below Tidbits Creek, near Blue River .....	59
Lookout Creek near Blue River .....	60
Blue River near Blue River .....	61
Blue River at Blue River .....	62
McKenzie River near Vida .....	63
Gate Creek at Vida .....	65
Mohawk River near Springfield .....	66
McKenzie River near Coburg .....	67
Willamette River at Harrisburg .....	68
Long Tom River near Noti .....	69
Coyote Creek near Crow .....	70
Amazon Creek at Eugene .....	71
Long Tom River at Monroe .....	72
Rock Creek near Philomath .....	74
Marys River near Philomath .....	75
Calapooia River at Holley .....	76
Calapooia River at Albany .....	77
Willamette River at Albany .....	78
North Santiam River below Boulder Creek, near Detroit ..	80
Breitenbush River above Canyon Creek, near Detroit ...	81
North Santiam River at Niagara .....	82
Little North Santiam River near Mehama .....	84
North Santiam River at Mehama .....	85
South Santiam River below Cascadia .....	87
Middle Santiam River near Cascadia .....	88
Quartzville Creek near Cascadia .....	89
Middle Santiam River near Foster .....	90
Middle Santiam River at mouth, near Foster .....	91
South Santiam River	
Wiley Creek near Foster .....	92
South Santiam River at Waterloo .....	93
Thomas Creek near Scio .....	95
Santiam River at Jefferson .....	96
Luckiamute River near Hoskins .....	98
Luckiamute River at Pedee .....	99
Luckiamute River near Suver .....	100
Rickreall Creek near Dallas .....	101
Willamette River at Salem .....	102
South Yamhill River near Willamina .....	104
Willamina Creek near Willamina .....	105
Mill Creek near Willamina .....	106

# DOWNSTREAM ORDER OF GAGING STATIONS IN WESTERN OREGON--CONTINUED

	PAGE
Lower Columbia River Basin--Continued	
Willamette River Basin--Continued	
South Yamhill River Basin--Continued	
South Yamhill River near Whiteson .....	107
North Yamhill River near Fairdale .....	108
Haskins Creek near McMinnville .....	109
North Yamhill River near Pike .....	110
North Yamhill River at Pike .....	111
Willamette River at Wilsonville .....	112
Molalla River above Pine Creek, near Wilhoit .....	113
Mollala River near Canby .....	114
Pudding River	
Silver Creek at Silverton .....	115
Pudding River near Mount Angel .....	116
Butte Creek at Monitor .....	117
Pudding River at Aurora .....	118
Tualatin River	
Tualatin River near Gaston .....	119
Scoggins Creek	
Scoggins Creek near Gaston .....	121
Tualatin River near Dilley .....	122
Gales Creek near Gales Creek .....	123
Gales Creek near Forest Grove .....	124
East Fork Dairy Creek at Mountaindale .....	125
McKay Creek near North Plains .....	126
Tualatin River at Farmington .....	127
Tualatin River at West Linn .....	128
Clackamas River	
Clackamas River at Big Bottom .....	130
Oak Grove Fork at Timothy Meadows .....	131
Oak Grove Fork near Government Camp .....	132
Oak Grove Fork above powerplant intake .....	133
Clackamas River above Three Lynx Creek .....	135
Clackamas River at Estacada .....	136
Clackamas River near Clackamas .....	138
Johnson Creek at Sycamore .....	139
Willamette River at Portland .....	140
Bear Creek near Svensen .....	141
Youngs River near Astoria .....	142
Pacific Slope Basins in Oregon	
Nehalem River Basin	
Nehalem River near Foss .....	144
Wilson River Basin	
Wilson River near Tillamook .....	145
Trask River Basin	
Trask River near Tillamook .....	146
Nestucca River Basin	
Nestucca River near Fairdale .....	147
Nestucca River near McMinnville .....	148
Nestucca River near Beaver .....	149

# DOWNSTREAM ORDER OF GAGING STATIONS IN WESTERN OREGON--CONTINUED

	PAGE
Pacific Slope Basins in Oregon--Continued	
Siletz River Basin	
Siletz River at Siletz .....	150
Yaquina River Basin	
Yaquina River near Chitwood .....	151
Mill Creek near Toledo .....	152
Alsea River Basin	
North Fork Alsea River at Alsea .....	153
Five Rivers near Fisher .....	154
Alsea River near Tidewater .....	155
Drift Creek near Salado .....	156
Needle Branch near Salado .....	157
Flynn Creek near Salado .....	158
Deer Creek near Salado .....	159
Big Creek Basin	
Big Creek near Roosevelt Beach .....	160
Siuslaw River Basin	
Siuslaw River	
Lake Creek at Triangle Lake .....	161
Lake Creek near Deadwood .....	162
Siuslaw River near Mapleton .....	163
North Fork Siuslaw River near Minerva .....	164
Umpqua River Basin	
South Umpqua River	
Jackson Creek near Tiller .....	165
South Umpqua River at Tiller .....	166
Elk Creek near Drew .....	167
Days Creek at Days Creek .....	168
Cow Creek near Azalea .....	169
West Fork Cow Creek near Glendale .....	170
Cow Creek near Riddle .....	171
South Myrtle Creek near Myrtle Creek .....	172
North Myrtle Creek near Myrtle Creek .....	173
Olalla Creek near Tenmile .....	174
Lookingglass Creek at Brockway .....	175
South Umpqua River near Brockway .....	176
Deer Creek near Roseburg .....	177
North Umpqua River	
Lake Creek near Diamond Lake .....	178
North Umpqua River at Toketee Falls .....	179
North Umpqua River ab. Copeland Creek, nr. Toketee Falls .....	180
Steamboat Creek near Glide .....	181
North Umpqua River above Rock Creek, near Glide .....	182
Rock Creek near Glide .....	183
Little River at Peel .....	184
North Umpqua River near Glide .....	185
Sutherlin Creek at Sutherlin .....	186
North Umpqua River at Winchester .....	187

DOWNSTREAM ORDER OF GAGING STATIONS IN WESTERN OREGON--CONTINUED

	PAGE
Pacific Slope Basins in Oregon--Continued	
Umpqua River Basin--Continued	
Umpqua River	
Calapooya Creek near Oakland .....	188
Umpqua River near Elkton .....	189
Elk Creek near Drain .....	190
Tenmile Creek Basin	
Tenmile Creek near Lakeside .....	191
Coos River Basin	
West Fork Millicoma River near Allegany .....	192
Coquille River Basin	
South Fork Coquille River above Panther Creek, nr. Illahe.	193
South Fork Coquille River near Illahe .....	194
South Fork Coquille River near Powers .....	195
South Fork Coquille River at Powers .....	196
Middle Fork Coquille River near Myrtle Point .....	197
North Fork Coquille River near Fairview .....	198
North Fork Coquille River near Myrtle Point .....	199
Rogue River Basin	
Rogue River above Bybee Creek, near Union Creek .....	200
Rogue River above Prospect .....	201
Rogue River below Prospect .....	202
South Fork Rogue River above Imnaha Creek, near Prospect	203
Imnaha Creek near Prospect .....	204
Middle Fork Rogue River near Prospect .....	205
Red Blanket Creek near Prospect .....	206
South Fork Rogue River, South of Prospect .....	207
Rogue River below South Fork Rogue River, near Prospect ..	208
South Fork Big Butte Creek near Butte Falls .....	209
Big Butte Creek near McLeod .....	210
Rogue River near McLeod .....	211
Elk Creek near Trail .....	212
Rogue River at Dodge Bridge, near Eagle Point .....	213
South Fork Little Butte Creek at Big Elk Ranger Station.	214
South Fork Little Butte Creek near Lakecreek .....	215
North Fork Little Butte Creek at Fish Lake, near	
Lakecreek .....	217
North Fork Little Butte Creek near Lakecreek .....	218
Emigrant Creek near Ashland .....	219
West Fork Ashland Creek near Ashland .....	221
East Fork Ashland Creek near Ashland .....	222
Bear Creek at Medford .....	223
Rogue River at Raygold, near Central Point .....	224
Rogue River at Grants Pass .....	225

# DOWNSTREAM ORDER OF GAGING STATIONS IN WESTERN OREGON--CONTINUED

	PAGE
Pacific Slope Basins in Oregon--Continued	
Rogue River Basin--Continued	
Applegate River	
Applegate River near Copper .....	226
Applegate River near Ruch .....	227
Applegate River near Applegate .....	228
Powell Creek near Williams .....	229
Applegate River near Wilderville .....	230
Slate Creek at Wonder .....	231
Grave Creek at Pease Bridge, near Placer .....	232
Rogue River near Agness .....	233
Illinois River Basin	
East Fork Illinois River near Takilma .....	234
Sucker Creek near Holland .....	235
Sucker Creek below Little Grayback Creek, nr. Holland.	236
West Fork Illinois River below Rock Cr., near O'Brien.	237
Illinois River at Kerby .....	238
Illinois River near Kerby .....	239
Deer Creek near Dryden .....	240
Illinois River near Selma .....	241
Illinois River near Agness.....	242
Chetco River Basin	
Chetco River near Brookings .....	243

## SANDY RIVER BASIN

11

14131000 LITTLE ZIGZAG RIVER AT TWIN BRIDGES, NEAR RHODODENDRON, OR

LOCATION.--Lat 45°18'50", long 121°48'30", in NW¼ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--April 1926 to September 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,905.16 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--10 years (water years 1927-36), 25.3 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 250 ft<sup>3</sup>/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<sup>3</sup>/s Feb. 1-13, 16-18, 1932.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1927-36

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	25	22	1.6	.07	7.3
NOVEMBER	20	30	24	2.9	.12	7.8
DECEMBER	19	44	26	7.1	.27	8.6
JANUARY	20	42	26	6.5	.25	8.5
FEBRUARY	17	31	24	4.5	.18	8.1
MARCH	23	36	26	4.1	.16	8.7
APRIL	24	32	29	2.6	.09	9.4
MAY	24	37	31	4.5	.15	10.1
JUNE	23	42	28	5.3	.19	9.2
JULY	21	30	24	2.6	.11	7.9
AUGUST	19	25	22	1.9	.09	7.2
SEPTEMBER	17	24	22	2.0	.09	7.2
ANNUAL	22	29	25	2.1	.08	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1928-36

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1927-36

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	76	122	159	--	--	--
WEIGHTED SKEW = .324						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1927-36

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR 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	82	107	--	--	--
3	45	61	74	--	--	--
7	39	49	57	--	--	--
15	36	43	48	--	--	--
30	34	40	44	--	--	--
60	32	36	40	--	--	--
90	30	34	37	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1927-36

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
36	33	31	30	28	27	25	24	24	23	22	22	21	20	20

## SANDY RIVER BASIN

14134000 SALMON RIVER NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°15'55", long 121°43'00", in SE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1910 to May 1912, April 1926 to September 1982. Published as "near Rowe" 1910-12.

GAGE.--Water-stage recorder. Datum of gage is 3,445.53 ft 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 above station.

AVERAGE DISCHARGE.--57 years (water years 1911, 1927-82), 44.4 ft<sup>3</sup>/s, 75.37 in/yr, 32,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 4.75 ft, from rating curve extended above 310 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 10 ft<sup>3</sup>/s Nov. 27, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1911-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	14	52	25	8.5	.33	4.8
NOVEMBER	14	90	38	17	.45	7.1
DECEMBER	15	135	50	26	.53	9.4
JANUARY	17	98	43	18	.41	8.2
FEBRUARY	15	109	42	18	.43	7.9
MARCH	21	89	39	13	.34	7.3
APRIL	27	82	52	13	.25	9.7
MAY	32	125	76	22	.28	14.3
JUNE	24	164	71	30	.43	13.3
JULY	17	97	43	18	.41	8.2
AUGUST	16	55	28	8.1	.29	5.3
SEPTEMBER	15	37	24	5.0	.21	4.5
ANNUAL	24	63	44	8.7	.19	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1912-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	13	12	11	10
3	17	15	13	12	11	10
7	18	15	14	13	12	11
14	19	16	14	13	12	11
30	20	17	15	14	13	12
60	21	18	16	15	14	13
90	23	19	17	16	15	14
120	24	20	18	17	16	15
183	30	24	21	19	18	17

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1911-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	287	465	608	817	996	1190
WEIGHTED SKEW = .269						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1911-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	192	297	383	510	620	745
3	145	213	270	356	432	520
7	121	165	198	245	282	323
15	106	137	157	182	200	217
30	95	119	132	147	157	165
60	84	102	111	119	124	128
90	75	89	96	103	107	110

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1911-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
102	82	71	63	55	50	42	36	31	27	25	24	22	20	18





## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1913 to September 1914, August 1920 to September 1921, April 1925 to September 1936.

GAGE.--Staff gage. Altitude 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 above station.

AVERAGE DISCHARGE.--13 years (water years 1914, 1921, 1926-36), 438 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s Mar. 31, 1931, gage height, 9.80 ft, site and datum then in use, from rating curve extended above 4,600 ft<sup>3</sup>/s; minimum, 65 ft<sup>3</sup>/s Dec. 3-6, 1929, Aug. 31 to Sept. 3, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1914-36

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	80	519	222	140	.63	4.2
NOVEMBER	73	1359	481	358	.74	9.2
DECEMBER	219	1641	576	384	.67	11.0
JANUARY	275	1066	619	263	.42	11.8
FEBRUARY	183	1113	545	300	.55	10.4
MARCH	468	1322	707	255	.36	13.5
APRIL	298	955	697	189	.27	13.3
MAY	231	1045	646	276	.43	12.3
JUNE	132	1071	377	236	.63	7.2
JULY	86	277	159	49	.31	3.0
AUGUST	75	142	102	18	.18	1.9
SEPTEMBER	76	296	123	64	.52	2.3
ANNUAL	284	589	438	94	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1926-36

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	71	66	64	63	--	--
3	71	66	64	63	--	--
7	72	67	65	64	--	--
14	74	69	67	66	--	--
30	78	71	69	68	--	--
60	86	76	73	71	--	--
90	94	80	75	73	--	--
120	106	87	81	78	--	--
183	171	130	117	109	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1914-36

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	11300	--	--
WEIGHTED SKEW = .374						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1914-36

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4220	5700	6700	7980	--	--
3	2930	3960	4580	5310	--	--
7	2060	2850	3370	4040	--	--
15	1490	1970	2270	2640	--	--
30	1150	1410	1580	1800	--	--
60	915	1110	1240	1400	--	--
90	806	957	1050	1180	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1914-36

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1160	932	790	677	580	495	379	295	221	164	137	115	99	86	77

## 14135500 SALMON RIVER ABOVE BOULDER CREEK, NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°21'40", long 122°00'40", in SW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1936 to September 1952.

GAGE.--Water-stage recorder. Datum of gage is 1,089.2 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--16 years (water years 1937-52) 452 ft<sup>3</sup>/s, 327,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft<sup>3</sup>/s Dec. 14, 1946, gage height, 7.08 ft, from rating curve extended above 4,100 ft<sup>3</sup>/s by logarithmic plotting; minimum, 59 ft<sup>3</sup>/s Nov. 30, Dec. 1, 1936, Sept. 25, 26, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1937-52

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	74	582	224	159	.71	4.1
NOVEMBER	70	1058	527	318	.60	9.7
DECEMBER	175	1666	713	374	.52	13.1
JANUARY	143	1026	518	268	.52	9.5
FEBRUARY	253	956	629	218	.35	11.6
MARCH	228	900	572	163	.28	10.5
APRIL	228	1064	738	225	.30	13.6
MAY	270	1294	715	292	.41	13.2
JUNE	142	907	399	187	.47	7.3
JULY	94	313	184	59	.32	3.4
AUGUST	71	161	112	24	.21	2.1
SEPTEMBER	76	140	103	21	.20	1.9
ANNUAL	246	613	452	112	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1938-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	81	70	65	61	--	--
3	82	71	65	61	--	--
7	83	72	67	63	--	--
14	86	75	70	66	--	--
30	91	79	74	69	--	--
60	101	86	79	74	--	--
90	111	92	84	78	--	--
120	134	105	92	83	--	--
183	217	156	132	114	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1937-52

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3270	4780	7260	9180	11900	--	--
WEIGHTED SKEW = .343						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1937-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3270	4760	5960	7760	--	--
3	2270	3440	4490	6240	--	--
7	1690	2490	3150	4170	--	--
15	1290	1780	2120	2560	--	--
30	1100	1420	1600	1800	--	--
60	916	1120	1210	1300	--	--
90	834	1010	1100	1170	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1937-52

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1260	954	802	695	610	536	411	317	237	171	141	121	106	94	81

## SANDY RIVER BASIN

14137000 SANDY RIVER NEAR MARMOT, OR

LOCATION.--Lat 45°23'30", long 122°07'40", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1911 to September 1982. 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.

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--71 years, 1,368 ft<sup>3</sup>/s, 70.91 in/yr, 991,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 17.05 ft, from rating curve extended above 7,000 ft<sup>3</sup>/s; minimum, 195 ft<sup>3</sup>/s Nov. 27, 28, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	260	2168	665	400	.60	4.1
NOVEMBER	236	3699	1558	897	.58	9.5
DECEMBER	445	6278	2129	1189	.56	13.0
JANUARY	498	4752	2028	1016	.50	12.4
FEBRUARY	464	4686	1834	825	.45	11.2
MARCH	631	3983	1645	574	.35	10.0
APRIL	658	3134	1900	502	.26	11.6
MAY	744	3443	1878	628	.33	11.4
JUNE	496	3457	1257	580	.46	7.7
JULY	356	1385	654	192	.29	4.0
AUGUST	268	663	435	85	.20	2.7
SEPTEMBER	265	1056	427	158	.37	2.6
ANNUAL	766	1933	1363	273	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1913-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	290	252	234	220	205	196
3	295	255	237	222	207	197
7	304	262	242	227	210	200
14	317	273	252	236	218	207
30	337	289	267	249	231	219
60	373	314	288	267	247	234
90	409	340	310	287	263	249
120	466	380	344	318	292	276
183	682	537	477	434	392	368

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9120	14200	21900	27300	34400	39800	45300
WEIGHTED SKEW = -.123						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10500	15600	19000	23500	26800	30200
3	7750	11300	13900	17200	19800	22500
7	5680	7900	9360	11200	12500	13800
15	4260	5650	6510	7530	8260	8950
30	3370	4330	4920	5630	6130	6610
60	2720	3380	3780	4250	4570	4870
90	2440	2970	3270	3610	3840	4050

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3570	2700	2250	1960	1740	1550	1240	997	793	597	520	456	404	358	310

## SANDY RIVER BASIN

17

14138800 BLAZED ALDER CREEK NEAR RHODODENDRON, OR

LOCATION.--Lat 45°27'10", long 121°53'25", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--19 years, 59.8 ft<sup>3</sup>/s, 99.40 in/yr, 43,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,610 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 8.25 ft, from rating curve extended above 330 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 1.5 ft<sup>3</sup>/s Sept. 5-10, 28, 29, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.4	83	30	23	.75	4.2
NOVEMBER	15	177	79	46	.58	10.9
DECEMBER	23	288	122	71	.59	17.0
JANUARY	23	207	113	57	.50	15.7
FEBRUARY	18	183	80	46	.57	11.2
MARCH	29	167	60	31	.51	8.4
APRIL	35	109	74	24	.32	10.2
MAY	38	165	85	37	.43	11.9
JUNE	13	115	45	30	.66	6.2
JULY	4.0	24	11	5.5	.49	1.6
AUGUST	2.4	28	6.7	6.2	.92	.9
SEPTEMBER	2.4	36	13	10	.81	1.8
ANNUAL	34	88	60	13	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.2	1.8	1.6	1.5	--	--
3	2.3	1.8	1.6	1.6	--	--
7	2.4	1.9	1.7	1.6	--	--
14	2.6	2.0	1.8	1.7	--	--
30	3.1	2.3	2.0	1.9	--	--
60	4.3	2.9	2.5	2.2	--	--
90	6.9	4.3	3.4	2.8	--	--
120	10	6.7	5.3	4.4	--	--
183	23	16	13	11	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
816	1150	1590	1860	2200	--	--
WEIGHTED SKEW = -.226						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	743	1060	1250	1460	--	--
3	498	713	856	1030	--	--
7	359	499	582	676	--	--
15	245	329	379	438	--	--
30	183	238	273	317	--	--
60	140	177	201	231	--	--
90	121	152	172	197	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
209	135	102	84	71	61	46	34	24	16	12	7.8	5.5	3.9	2.9

## 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 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,080 ft, from topographic map.

REMARKS.--Water stored since 1915 in Bull Run Lake, usable capacity, 12,270 acre-ft. No diversion above station.

AVERAGE DISCHARGE.--16 years, 424 ft<sup>3</sup>/s, 120.21 in/yr, 307,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,610 ft<sup>3</sup>/s Jan. 20, 1972, gage height, 13.22 ft; minimum, 33 ft<sup>3</sup>/s Sept. 27, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1967-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	53	535	249	155	.62	4.9
NOVEMBER	147	1050	534	283	.53	10.5
DECEMBER	193	1434	824	343	.42	16.2
JANUARY	178	1238	755	376	.50	14.8
FEBRUARY	185	1215	632	325	.51	12.4
MARCH	236	1120	466	212	.45	9.1
APRIL	242	743	483	141	.29	9.5
MAY	260	885	488	189	.39	9.6
JUNE	114	699	309	172	.56	6.1
JULY	54	243	116	48	.42	2.3
AUGUST	44	231	98	54	.56	1.9
SEPTEMBER	43	294	146	73	.50	2.9
ANNUAL	249	643	424	99	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	38	35	33	--	--
3	46	39	35	33	--	--
7	47	39	36	33	--	--
14	50	41	37	34	--	--
30	58	46	41	37	--	--
60	72	53	45	40	--	--
90	98	71	59	50	--	--
120	119	90	76	66	--	--
183	186	150	134	123	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1967-82

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

5130 6180 7400 8120 8950 -- --

WEIGHTED SKEW = -.105

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	4710	5690	6010	6220	--	--
3	3390	3910	4030	4080	--	--
7	2440	2910	3050	3140	--	--
15	1620	2030	2230	2440	--	--
30	1220	1500	1640	1770	--	--
60	962	1180	1300	1440	--	--
90	832	1010	1120	1240	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1967-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1420	896	691	569	492	433	344	264	207	149	124	100	81	63	51

## SANDY RIVER BASIN

19

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR

LOCATION.--Lat 45°29'40", long 122°02'05", near line between SE¼ and SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1965 to September 1982.

GAGE.--Water-stage recorder. Altitude 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 dam, capacity, about 1,030 acre-ft. No diversion above station.

AVERAGE DISCHARGE.--17 years, 77.3 ft<sup>3</sup>/s, 126.17 in/yr, 56,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft<sup>3</sup>/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 950 ft<sup>3</sup>/s on basis of estimate of peak flow from slope-area survey; minimum, 9.1 ft<sup>3</sup>/s Oct. 2-14, 1979.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1966-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	16	93	46	26	.56	4.9
NOVEMBER	28	199	97	52	.54	10.5
DECEMBER	33	285	150	73	.49	16.2
JANUARY	32	309	145	78	.54	15.6
FEBRUARY	40	216	111	54	.48	12.0
MARCH	41	200	83	37	.44	9.0
APRIL	50	127	85	23	.27	9.2
MAY	46	137	84	32	.38	9.0
JUNE	18	111	53	28	.52	5.7
JULY	14	47	27	9.4	.35	2.9
AUGUST	12	35	19	6.1	.32	2.1
SEPTEMBER	12	54	28	13	.45	3.0
ANNUAL	46	121	77	20	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	11	10	9.3	--	--
3	13	11	10	9.3	--	--
7	13	11	10	9.4	--	--
14	14	12	11	9.8	--	--
30	14	12	11	10	--	--
60	17	14	13	12	--	--
90	21	17	15	13	--	--
120	25	20	18	16	--	--
183	36	29	25	22	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
693	1140	1850	2360	3040	--	--
WEIGHTED SKEW = -.141						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1966-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	834	1250	1520	1830	--	--
3	569	799	932	1080	--	--
7	413	570	656	748	--	--
15	288	395	458	530	--	--
30	219	288	327	371	--	--
60	170	223	258	302	--	--
90	148	190	218	254	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
239	161	124	104	89	79	63	50	39	29	24	21	18	16	14

## SANDY RIVER BASIN

14139500 BULL RUN RIVER BELOW LAKE BEN MORROW, OR

LOCATION.--Lat 45°29'00", long 122°04'50", in SE¼ 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 mi<sup>2</sup>, 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 above 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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, 421,400 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge at dam, 16,100 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1930-54

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	76	1092	326	291	.89	4.7
NOVEMBER	93	2005	817	513	.63	11.7
DECEMBER	225	2629	1022	544	.53	14.6
JANUARY	163	2581	877	541	.62	12.5
FEBRUARY	290	1732	826	373	.45	11.8
MARCH	233	1831	764	320	.42	10.9
APRIL	211	1263	778	253	.33	11.1
MAY	233	1284	686	287	.42	9.8
JUNE	110	1305	443	273	.62	6.3
JULY	90	358	187	71	.38	2.7
AUGUST	88	184	132	27	.21	1.9
SEPTEMBER	80	385	137	71	.52	2.0
ANNUAL	349	784	582	119	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1931-54

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	31	18	10	5.0	--
3	74	37	23	15	8.5	--
7	80	55	44	36	29	--
14	87	68	60	55	49	--
30	94	77	70	65	60	--
60	105	87	80	75	70	--
90	113	94	87	82	78	--
120	136	103	91	83	75	--
183	240	171	145	127	109	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1930-54

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5690	7650	10400	12200	14600	16400	--
WEIGHTED SKEW = .116						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1930-54

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5710	7860	9480	11800	13600	--
3	4050	5470	6480	7830	8900	--
7	2840	3760	4380	5160	5740	--
15	2080	2690	3050	3470	3760	--
30	1650	2140	2430	2760	2980	--
60	1270	1600	1780	1990	2130	--
90	1140	1380	1500	1640	1720	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1930-54

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1910	1280	1000	848	733	631	471	349	249	172	147	128	115	103	88

## SANDY RIVER BASIN

21

14139700 CEDAR CREEK NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°27'30", long 122°01'50", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July to November 1964, June 1965 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 1,960 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--17 years, 68.1 ft<sup>3</sup>/s, 116.62 in/yr, 49,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 7.20 ft, from rating curve extended above 320 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 6.9 ft<sup>3</sup>/s Oct. 9-13, 1979.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1966-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	13	87	40	25	.61	4.9
NOVEMBER	24	166	82	43	.53	10.1
DECEMBER	29	232	125	56	.45	15.3
JANUARY	32	218	124	62	.50	15.1
FEBRUARY	32	196	101	49	.48	12.3
MARCH	39	181	82	34	.41	10.0
APRIL	47	130	86	24	.28	10.5
MAY	36	136	71	28	.39	8.6
JUNE	19	115	44	25	.58	5.4
JULY	13	37	21	6.7	.31	2.6
AUGUST	8.7	38	18	7.8	.44	2.2
SEPTEMBER	12	51	26	13	.49	3.1
ANNUAL	42	105	68	16	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.5	8.2	7.6	7.2	--	--
3	9.6	8.3	7.7	7.2	--	--
7	9.9	8.4	7.8	7.3	--	--
14	10	8.8	8.2	7.7	--	--
30	12	9.9	9.1	8.5	--	--
60	14	11	11	10	--	--
90	17	14	13	12	--	--
120	21	17	15	14	--	--
183	31	25	22	20	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
685	1010	1430	1700	2030	--	--
WEIGHTED SKEW = -.297						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1966-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	720	912	996	1070	--	--
3	504	610	645	670	--	--
7	358	444	477	503	--	--
15	246	314	352	395	--	--
30	188	239	267	298	--	--
60	149	186	207	232	--	--
90	130	161	180	203	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
221	143	112	94	82	71	55	42	33	24	21	18	16	14	12



## SANDY RIVER BASIN

14141500 LITTLE SANDY RIVER NEAR BULL RUN, OR

LOCATION.--Lat 45°24'55", long 122°10'20", in NW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May to July 1911, October 1911 to March 1912, June 1912 to April 1913, July 1919 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Altitude 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 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 National Geodetic Vertical Datum of 1929 (Portland General Electric Co. bench mark).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--63 years (water years 1920-82), 146 ft<sup>3</sup>/s, 88.91 in/yr, 105,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,320 ft<sup>3</sup>/s Nov. 20, 1921, gage height, 9.18 ft, site and datum then in use, from rating curve extended above 2,200 ft<sup>3</sup>/s; minimum, 8 ft<sup>3</sup>/s Aug. 20, Sept. 16, 17, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1920-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	13	271	90	62	.69	5.1
NOVEMBER	14	588	206	124	.60	11.7
DECEMBER	58	585	253	113	.45	14.4
JANUARY	46	589	241	130	.54	13.7
FEBRUARY	59	452	208	94	.45	11.8
MARCH	50	407	186	69	.37	10.6
APRIL	54	325	198	56	.28	11.3
MAY	56	328	170	64	.37	9.7
JUNE	21	268	105	58	.56	6.0
JULY	14	93	39	17	.42	2.2
AUGUST	10	96	24	13	.55	1.4
SEPTEMBER	12	184	41	36	.88	2.3
ANNUAL	88	223	146	30	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1921-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	12	11	9.8	9.0	8.6
3	14	12	11	9.8	9.1	8.6
7	15	12	11	10	9.6	9.2
14	15	13	11	11	10	9.6
30	17	14	12	11	11	10
60	20	16	14	13	11	11
90	26	19	16	14	12	11
120	34	24	20	17	15	13
183	61	45	39	34	29	27

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1920-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	2180	3050	3620	4360	4900	5460
WEIGHTED SKEW = -.027						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1920-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1460	2030	2420	2930	3320	3720
3	1010	1380	1640	1980	2250	2530
7	710	931	1070	1230	1350	1460
15	513	665	759	872	952	1030
30	394	501	566	641	694	744
60	312	388	435	491	531	569
90	277	340	379	426	459	491

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1920-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
443	307	249	212	187	166	129	98	73	48	38	29	23	19	16

## 14142500 SANDY RIVER BELOW BULL RUN RIVER, NEAR BULL RUN, OR

LOCATION.--Lat 45°27'20", long 122°14'45", in SW¼NW¼ sec.30, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, on left bank 0.9 mi downstream from Bull Run River, 2.0 mi northwest of Bull Run, and at mile 17.6.

DRAINAGE AREA.--440 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1910 to September 1914, October 1929 to September 1966. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Altitude of gage is 200 ft, from river-profile map. Apr. 27, 1910, to Sept. 30, 1914, staff gage at site 0.8 mi upstream at different datum. Oct. 31, 1929 to June 7, 1963, water-stage recorder at present site and datum.

REMARKS.--Water stored since 1915 in Bull Run Lake. Flow regulated since 1929 by Lake Ben Morrow and since 1961 by Bull Run Reservoir No. 2. Considerable fluctuation caused by Bull Run powerplant of Portland General Electric Co.

AVERAGE DISCHARGE.--41 years (water years 1911-14, 1930-66), 2,356 ft<sup>3</sup>/s, 1,706,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 22.3 ft; minimum, 45 ft<sup>3</sup>/s Sept. 26, 1962; minimum daily, 63 ft<sup>3</sup>/s Oct. 12, Nov. 9, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1931-61

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	326	4086	1296	1006	.78	4.5
NOVEMBER	294	6953	3137	1891	.60	10.9
DECEMBER	992	9443	3923	2017	.51	13.7
JANUARY	791	8955	3457	1846	.53	12.1
FEBRUARY	1255	7684	3343	1425	.43	11.7
MARCH	997	6426	3171	1103	.35	11.1
APRIL	980	5176	3443	905	.26	12.0
MAY	1053	5357	3044	1113	.37	10.6
JUNE	570	4887	1933	1034	.53	6.7
JULY	408	1756	841	294	.35	2.9
AUGUST	322	713	512	102	.20	1.8
SEPTEMBER	358	1947	564	314	.56	2.0
ANNUAL	1368	3359	2383	468	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1932-61

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	161	107	87	74	62	--
3	297	221	183	154	124	--
7	360	301	273	252	229	--
14	385	326	300	280	258	--
30	409	351	326	308	291	--
60	457	380	347	322	297	--
90	508	410	370	342	314	--
120	620	470	411	370	330	--
183	1060	764	647	565	486	--

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

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

WEIGHTED SKEW = --

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1931-61

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20300	27600	32600	39100	44100	--
3	14900	19700	22900	27000	30000	--
7	10500	13700	15700	18200	19900	--
15	7840	9920	11100	12300	13000	--
30	6220	7850	8750	9750	10400	--
60	5010	6110	6710	7360	7790	--
90	4540	5420	5870	6320	6600	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1931-61

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
6940	5030	4150	3570	3160	2790	2150	1660	1230	838	701	597	510	432	360

## WILLAMETTE RIVER BASIN

14144800 MIDDLE FORK WILLAMETTE RIVER NEAR OAKRIDGE, OR

LOCATION.--Lat 43°35'50", long 122°27'20", in NW¼NE¼ 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 mi.

PERIOD OF RECORD.--October 1958 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,556.83 ft 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 above station.

AVERAGE DISCHARGE.--24 years, 807 ft<sup>3</sup>/s, 42.48 in/yr, 584,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,800 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 16.96 ft, from floodmark, site and datum then in use, from rating curve extended above 5,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 187 ft<sup>3</sup>/s Sept. 15, 16, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	238	636	329	84	.26	3.4
NOVEMBER	296	1805	796	414	.52	8.2
DECEMBER	271	3922	1253	862	.69	12.9
JANUARY	273	2730	1280	690	.54	13.2
FEBRUARY	271	2360	1116	497	.45	11.5
MARCH	432	2842	1009	492	.49	10.4
APRIL	518	1475	1005	271	.27	10.4
MAY	557	1754	1120	340	.30	11.6
JUNE	385	1538	794	346	.44	8.2
JULY	253	740	411	127	.31	4.2
AUGUST	215	415	299	56	.19	3.1
SEPTEMBER	226	377	282	43	.15	2.9
ANNUAL	360	1197	807	206	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	233	211	201	194	--	--
3	234	212	203	196	--	--
7	237	214	204	197	--	--
14	241	217	207	200	--	--
30	247	225	217	212	--	--
60	259	236	227	221	--	--
90	274	250	241	235	--	--
120	292	264	254	248	--	--
183	400	338	313	295	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5210	8750	15200	20700	29000	--	--
WEIGHTED SKEW = .245						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6780	11600	14900	18900	--	--
3	4890	8160	10500	13500	--	--
7	3400	5340	6710	8520	--	--
15	2400	3510	4250	5200	--	--
30	1910	2620	3090	3690	--	--
60	1540	2050	2380	2810	--	--
90	1390	1810	2080	2400	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2000	1510	1290	1130	989	896	735	592	459	359	322	299	278	259	236

## WILLAMETTE RIVER BASIN

25

14144900 HILLS CREEK ABOVE HILLS CREEK LAKE, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°40'50", long 122°22'10", in NW¼NW¼ 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 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--23 years, 150 ft<sup>3</sup>/s, 38.65 in/yr, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 12.23 ft, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 14 ft<sup>3</sup>/s Nov. 1, 1958.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	24	105	44	19	.44	2.4
NOVEMBER	28	441	153	102	.67	8.5
DECEMBER	23	1001	247	201	.81	13.7
JANUARY	27	574	264	164	.62	14.6
FEBRUARY	24	425	200	95	.48	11.1
MARCH	69	633	198	117	.59	11.0
APRIL	99	308	204	59	.29	11.3
MAY	108	367	236	75	.32	13.1
JUNE	54	341	145	75	.52	8.0
JULY	28	93	53	20	.38	2.9
AUGUST	21	61	32	9.6	.30	1.8
SEPTEMBER	21	89	31	14	.44	1.7
ANNUAL	60	254	150	46	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	18	17	16	--	--
3	20	18	17	16	--	--
7	20	18	17	16	--	--
14	21	19	18	17	--	--
30	22	20	19	19	--	--
60	26	23	22	21	--	--
90	28	25	23	23	--	--
120	34	28	26	24	--	--
183	60	44	37	32	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1100	1690	2810	3800	5380	--	--
WEIGHTED SKEW = .629						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1410	2370	3130	4220	--	--
3	1020	1710	2290	3200	--	--
7	692	1120	1500	2100	--	--
15	475	712	917	1240	--	--
30	374	522	646	838	--	--
60	304	416	507	642	--	--
90	270	363	435	538	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
431	318	263	225	197	171	132	100	69	45	38	32	29	25	22

## WILLAMETTE RIVER BASIN

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°43'20", long 122°26'15", in NW¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1913 to September 1914, September 1935 to September 1982. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,208.01 ft 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. No diversions above station.

AVERAGE DISCHARGE.--48 years, 1,147 ft<sup>3</sup>/s, 39.74 in/yr, 831,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 12.06 ft, site and datum then in use, from rating curve extended above 13,000 ft<sup>3</sup>/s; minimum observed, 0.70 ft<sup>3</sup>/s Sept. 8-11, 13, 1961.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF HILLS CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1914-60

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	221	1852	464	331	.71	3.4
NOVEMBER	212	2832	1097	736	.67	8.0
DECEMBER	324	4779	1637	1235	.75	11.9
JANUARY	260	3904	1734	989	.57	12.7
FEBRUARY	625	3313	1737	697	.40	12.7
MARCH	554	2700	1530	533	.35	11.2
APRIL	614	2751	1615	469	.29	11.8
MAY	738	2435	1558	490	.31	11.4
JUNE	344	2000	1146	466	.41	8.4
JULY	272	884	523	167	.32	3.8
AUGUST	233	441	343	60	.17	2.5
SEPTEMBER	246	389	317	45	.14	2.3
ANNUAL	629	1735	1138	297	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-60

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	276	242	224	209	193	--
3	278	243	225	210	194	--
7	282	246	227	212	195	--
14	286	250	230	215	197	--
30	295	257	236	220	201	--
60	313	270	247	229	208	--
90	332	282	257	237	215	--
120	361	298	269	247	224	--
183	537	395	333	288	244	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1914-60

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--
WEIGHTED SKEW = .082						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1914-60

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	9350	16000	21300	29000	35500	--
3	7130	11300	14400	18800	22300	--
7	5020	7390	9020	11100	12700	--
15	3570	5040	6040	7330	8310	--
30	2900	3880	4470	5140	5610	--
60	2360	3080	3510	4020	4370	--
90	2140	2720	3040	3380	3600	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1914-60

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3020	2290	1940	1680	1470	1300	1020	782	574	426	382	348	322	292	257

## WILLAMETTE RIVER BASIN

27

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF HILLS CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.1	1956	1190	437	.37	8.7
NOVEMBER	9.4	2940	1614	670	.42	11.8
DECEMBER	513	4580	2167	1152	.53	15.8
JANUARY	370	5308	1871	1113	.59	13.7
FEBRUARY	11	4391	927	996	1.07	6.8
MARCH	139	1665	631	512	.81	4.6
APRIL	93	1486	769	424	.55	5.6
MAY	92	1985	963	490	.51	7.0
JUNE	108	1983	903	456	.50	6.6
JULY	371	1165	599	197	.33	4.4
AUGUST	293	1430	863	317	.37	6.3
SEPTEMBER	793	2283	1199	325	.27	8.8
ANNUAL	578	1821	1144	331	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	141	95	79	68	--	--
3	163	108	86	71	--	--
7	191	124	96	77	--	--
14	233	151	115	90	--	--
30	289	187	143	113	--	--
60	427	266	197	149	--	--
90	592	356	250	178	--	--
120	660	426	321	247	--	--
183	820	656	581	525	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1962-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4590	6540	7840	9480	--	--
3	4370	6320	7650	9380	--	--
7	3990	5790	6990	8510	--	--
15	3340	4900	6000	7480	--	--
30	2660	3790	4630	5790	--	--
60	2140	3000	3630	4510	--	--
90	1930	2670	3200	3890	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1962-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3160	2030	1810	1610	1460	1370	1180	933	726	541	448	373	322	282	185

## WILLAMETTE RIVER BASIN

14146000 SALT CREEK NEAR OAKRIDGE, OR

LOCATION.--Lat 43°43'45", long 122°25'35", in SW¼ 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 mi<sup>2</sup>.

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 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 ft<sup>3</sup>/s, 212,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft<sup>3</sup>/s Oct. 29, 1950, gage height, 8.00 ft, from rating curve extended above 2,600 ft<sup>3</sup>/s by logarithmic plotting; minimum, 55 ft<sup>3</sup>/s Jan. 8, 1937, result of freezeup; minimum daily, 66 ft<sup>3</sup>/s Jan. 8, 1937.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1914-51

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	82	393	150	73	.48	4.3
NOVEMBER	94	635	289	159	.55	8.2
DECEMBER	116	912	355	208	.59	10.1
JANUARY	98	649	350	157	.45	9.9
FEBRUARY	169	640	343	115	.34	9.7
MARCH	149	486	350	94	.27	9.9
APRIL	186	541	423	99	.23	12.0
MAY	173	729	483	148	.31	13.7
JUNE	115	732	376	156	.41	10.7
JULY	90	312	173	56	.32	4.9
AUGUST	81	162	118	22	.19	3.3
SEPTEMBER	86	154	117	20	.17	3.3
ANNUAL	173	426	293	72	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1935-51

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	100	83	75	69	--	--
3	100	85	78	73	--	--
7	102	88	81	75	--	--
14	104	89	82	77	--	--
30	106	91	84	79	--	--
60	110	95	88	82	--	--
90	115	98	90	84	--	--
120	123	102	93	87	--	--
183	165	124	108	97	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1914-51

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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 -- --

WEIGHTED SKEW = -.026

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1914-51

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	1440	2270	2850	3610	--	--
3	1170	1720	2100	2590	--	--
7	888	1240	1480	1800	--	--
15	700	922	1060	1240	--	--
30	612	764	844	928	--	--
60	538	666	733	803	--	--
90	490	592	641	689	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1914-51

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
676	554	490	441	395	356	288	227	181	147	135	124	114	105	95

## WILLAMETTE RIVER BASIN

29

14146500 SALMON CREEK NEAR OAKRIDGE, OR

LOCATION.--Lat 43°45'45", long 122°22'18", in NE¼ 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 mi<sup>2</sup>, at measuring cable 0.6 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 1982. Monthly discharge only for some periods, published in WSP 1318. Published as "Kelsey River near Hazeldell" and "Salmon Creek near Hazeldell", 1909.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,462.36 ft 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 above station. All records given herein are for measuring cable site.

AVERAGE DISCHARGE.--55 years (water years 1914-19, 1934-82), 426 ft<sup>3</sup>/s, 49.45 in/yr, 308,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 9.15 ft, from floodmark, site and datum then in use, from rating curve extended above 2,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 63 ft<sup>3</sup>/s Jan. 8, 1937.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1914-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	107	477	186	70	.37	3.6
NOVEMBER	101	955	410	231	.56	8.0
DECEMBER	139	1886	621	386	.62	12.1
JANUARY	111	1297	604	305	.50	11.8
FEBRUARY	138	1282	583	237	.41	11.4
MARCH	180	1531	537	217	.40	10.5
APRIL	202	1090	601	185	.31	11.7
MAY	215	1068	601	193	.32	11.7
JUNE	138	1070	436	193	.44	8.5
JULY	112	636	230	88	.38	4.5
AUGUST	96	240	162	34	.21	3.2
SEPTEMBER	108	201	149	23	.16	2.9
ANNUAL	217	681	426	107	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1915-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	123	106	98	92	85	81
3	124	107	100	94	88	84
7	125	109	102	96	91	87
14	128	111	104	98	92	88
30	133	116	108	102	96	92
60	141	123	115	109	102	98
90	150	130	121	113	106	101
120	162	138	127	119	111	106
183	220	174	155	141	127	118

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1914-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1910	3240	5460	7160	9530	11500	13500
WEIGHTED SKEW = -.043						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1914-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2590	4140	5290	6870	8130	9460
3	2050	3160	4000	5200	6170	7230
7	1550	2260	2780	3480	4030	4620
15	1180	1610	1900	2260	2530	2800
30	964	1270	1460	1690	1850	2000
60	803	1040	1180	1340	1460	1570
90	731	929	1040	1170	1260	1340

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1914-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1060	829	706	621	555	499	400	318	243	195	177	163	150	136	121



## WILLAMETTE RIVER BASIN

## 14147000 WALDO LAKE OUTLET NEAR OAKRIDGE, OR

LOCATION.--Lat 43°46'05", long 122°03'10", in SE¼NW¼ 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 mi<sup>2</sup>, of which about 10.5 mi<sup>2</sup> is Waldo Lake.

PERIOD OF RECORD.--October 1936 to September 1953, October 1969 to September 1982.

GAGE.--Water-stage recorder and modified v-notch weir. Altitude 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 ft<sup>3</sup>/s past control gates, measured Oct. 1, 1981.

AVERAGE DISCHARGE.--30 years, 34.2 ft<sup>3</sup>/s, 24,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150 ft<sup>3</sup>/s Jan. 20, 1971, from rating curve extended above 77 ft<sup>3</sup>/s and adjusted for overbank flow; maximum gage height, 2.98 ft Jan. 2, 1943; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--A high-water mark in the channel of a previous high stage in the lake was noted on Sept. 3, 1936, as 3.2 ft gage height, affected by seiche.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1937-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1938-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	27	4.4	5.8	1.33	1.0
NOVEMBER	0.0	65	12	14	1.16	2.8
DECEMBER	0.0	90	31	27	.86	7.5
JANUARY	1.3	118	47	33	.70	11.4
FEBRUARY	.5	99	57	29	.50	13.7
MARCH	6.9	129	58	27	.47	13.8
APRIL	2.4	100	50	21	.42	12.1
MAY	10	76	48	15	.31	11.5
JUNE	13	81	50	18	.35	12.1
JULY	3.2	73	37	18	.49	8.8
AUGUST	0.0	38	15	11	.69	3.7
SEPTEMBER	0.0	19	6.1	6.1	1.00	1.5
ANNUAL	8.0	67	35	15	.42	100

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	2.7	.6	.2	.1	0.0	--
90	3.2	.8	.4	.2	.1	--
120	6.1	2.0	1.0	.5	.2	--
183	14	6.0	3.4	1.5	1.0	--

NOTE: LOW-FLOW STATISTICS UNCERTAIN DUE TO EXCESSIVE ZERO EVENTS.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1937-82MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1937-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
52	78	112	134	161	180	--
WEIGHTED SKEW = -.293						

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	78	110	129	150	163	--
3	77	109	127	148	161	--
7	75	106	125	145	159	--
15	73	102	119	138	151	--
30	69	96	111	128	138	--
60	64	88	101	116	126	--
90	61	84	96	109	118	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1937-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
90	76	69	61	56	51	42	32	23	14	9.4	6.1	3.0	1.1	0.0

## WILLAMETTE RIVER BASIN

31

14147500 NORTH FORK OF MIDDLE FORK WILLAMETTE RIVER NEAR OAKRIDGE, OR

LOCATION.--Lat 43°45'25", long 122°30'15", in SW¼ 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 mi<sup>2</sup>, at measuring section 0.5 mi downstream.

PERIOD OF RECORD.--October 1909 to March 1916, September 1935 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1912, published as "near Hazeldell."

GAGE.--Water-stage recorder. Datum of gage is 1,029.6 ft National Geodetic Vertical Datum of 1929 (river profile survey). Oct. 1, 1909, to March 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 above station. No diversions above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--53 years (water years 1910-15, 1936-82), 789 ft<sup>3</sup>/s, 43.56 in/yr, 571,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 19.14 ft, from floodmark, from rating curve extended above 7,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 22 ft<sup>3</sup>/s Aug. 20, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1910-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	114	904	260	152	.58	2.7
NOVEMBER	119	2287	845	528	.62	8.9
DECEMBER	163	4242	1275	842	.66	13.4
JANUARY	182	2708	1266	713	.56	13.3
FEBRUARY	163	2543	1230	528	.43	12.9
MARCH	330	2970	1115	473	.42	11.7
APRIL	373	2072	1151	365	.32	12.1
MAY	431	1895	1050	372	.35	11.0
JUNE	201	1394	668	315	.47	7.0
JULY	124	650	295	101	.34	3.1
AUGUST	98	298	182	42	.23	1.9
SEPTEMBER	116	307	167	35	.21	1.8
ANNUAL	350	1201	789	204	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1911-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	125	108	100	94	88	85
3	127	113	107	103	99	97
7	130	115	109	105	101	99
14	134	118	112	107	103	100
30	142	125	117	112	107	104
60	154	134	126	119	113	109
90	171	146	135	127	119	114
120	194	161	147	137	127	121
183	315	238	206	183	160	147

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1910-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4830	7430	11500	14600	18700	22100	25600
WEIGHTED SKEW = .074						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1910-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6000	9570	11900	14800	16800	18700
3	4720	7380	9210	11600	13300	15100
7	3460	5110	6230	7640	8700	9770
15	2550	3550	4200	5000	5580	6150
30	2070	2760	3200	3720	4090	4450
60	1670	2170	2480	2850	3120	3370
90	1500	1920	2160	2450	2640	2830

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1910-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2170	1650	1410	1220	1060	929	730	558	386	262	223	192	171	152	133

## WILLAMETTE RIVER BASIN

14148000 MIDDLE FORK WILLAMETTE RIVER BELOW NORTH FORK, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°48'05", long 122°33'35", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1911 to September 1912, July 1923 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Published as "near Hazeldell" 1911-12 and as "at Eula" 1923-50.

GAGE.--Water-stage recorder. Datum of gage is 934.76 ft National Geodetic Vertical Datum of 1929. Mar. 22, 1911, to Sept. 30, 1912, nonrecording gage at site 4.0 mi upstream, just below 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; slight regulation at times by logponds above station. No diversion above station.

AVERAGE DISCHARGE.--60 years, 2,767 ft<sup>3</sup>/s, 2,005,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,800 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 18.8 ft, from floodmark, site and datum then in use, from rating curve extended above 39,000 ft<sup>3</sup>/s; minimum, 322 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF HILLS CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-60

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	541	4185	1095	670	.61	3.3
NOVEMBER	500	6703	2679	1806	.67	8.2
DECEMBER	959	11640	3794	2524	.67	11.6
JANUARY	771	8988	3999	2108	.53	12.2
FEBRUARY	1352	7859	4264	1799	.42	13.0
MARCH	1293	8423	3774	1475	.39	11.5
APRIL	1454	6785	3984	1202	.30	12.1
MAY	1288	6408	3712	1346	.36	11.3
JUNE	837	7098	2741	1375	.50	8.4
JULY	591	2139	1232	417	.34	3.8
AUGUST	491	1095	798	163	.20	2.4
SEPTEMBER	494	1125	752	149	.20	2.3
ANNUAL	1520	4337	2724	717	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1925-60

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	619	531	488	455	420	--
3	622	533	490	456	421	--
7	632	544	501	468	433	--
14	645	553	509	475	438	--
30	666	570	525	490	452	--
60	709	600	549	510	468	--
90	757	629	569	524	476	--
120	824	671	604	554	503	--
183	1190	891	770	686	604	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-60

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
16200	26700	44100	57400	76000	91000	--
WEIGHTED SKEW = 0.000						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-60

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	22000	34500	43500	55500	64800	--
3	16500	24300	29800	37000	42500	--
7	11800	16400	19300	23000	25600	--
15	8610	11500	13300	15400	16900	--
30	6830	8830	10000	11400	12400	--
60	5580	7090	8020	9110	9890	--
90	5050	6300	7030	7850	8410	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-60

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7180	5600	4740	4100	3600	3190	2500	1910	1410	1040	915	826	751	679	592

14148000 MIDDLE FORK WILLAMETTE RIVER BELOW NORTH FORK, NEAR OAKRIDGE, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF HILLS CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	625	2929	1784	513	.29	5.2
NOVEMBER	1466	6263	3260	1374	.42	9.6
DECEMBER	1073	13540	5205	3002	.58	15.3
JANUARY	874	10120	4871	2343	.48	14.3
FEBRUARY	710	8093	3264	1738	.53	9.6
MARCH	1292	7802	2812	1568	.56	8.2
APRIL	1464	4575	2993	958	.32	8.8
MAY	1378	5036	3211	1070	.33	9.4
JUNE	1037	4969	2400	1110	.46	7.0
JULY	766	1901	1329	363	.27	3.9
AUGUST	700	1753	1354	325	.24	4.0
SEPTEMBER	1262	2639	1642	345	.21	4.8
ANNUAL	1416	4301	2844	779	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	808	648	568	504	--	--
3	840	683	604	542	--	--
7	884	721	636	568	--	--
14	924	753	663	590	--	--
30	1000	812	722	652	--	--
60	1170	962	865	791	--	--
90	1300	1090	994	916	--	--
120	1400	1210	1110	1030	--	--
183	1700	1440	1330	1240	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1962-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14900	22600	27200	32400	--	--
3	12000	18500	23000	28700	--	--
7	9540	14300	17600	21800	--	--
15	7910	11200	13200	15700	--	--
30	6490	9070	10700	12500	--	--
60	5250	7370	8760	10500	--	--
90	4730	6550	7680	9030	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1962-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7380	5570	4560	3950	3460	3030	2430	2080	1810	1590	1470	1350	1220	1080	924

## WILLAMETTE RIVER BASIN

## 14150000 MIDDLE FORK WILLAMETTE RIVER NEAR DEXTER, OR

LOCATION.--Lat 43°56'45", long 122°50'10", in SE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to September 1954 (published as "at Lowell"), June 1955 to September 1982. Monthly discharge only for October 1954 to June 1955, published in WSP 1738.

GAGE.--Water-stage recorder. Datum of gage is 592.30 ft 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, since 1955 by Dexter Lake (re-regulating), and since 1961 by Hills Creek Lake.

AVERAGE DISCHARGE.--36 years, 3,158 ft<sup>3</sup>/s, 2,288,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,600 ft<sup>3</sup>/s Jan. 18, 1953, gage height, 12.46 ft, site and datum then in use, from rating curve extended above 33,000 ft<sup>3</sup>/s; minimum daily, 100 ft<sup>3</sup>/s Nov. 25, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 13.9 ft Dec. 28, 1945, former site and datum.

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF HILLS CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1847	5266	3237	688	.21	9.0
NOVEMBER	2076	7748	4597	1487	.32	12.7
DECEMBER	1231	11300	5785	2848	.49	16.0
JANUARY	1050	13510	5219	2787	.53	14.4
FEBRUARY	668	7634	2713	2137	.79	7.5
MARCH	525	7363	2082	1562	.75	5.8
APRIL	437	4070	1891	1044	.55	5.2
MAY	526	5088	2366	1283	.54	6.5
JUNE	816	4564	2197	1137	.52	6.1
JULY	1088	1944	1556	271	.17	4.3
AUGUST	1083	2380	1827	335	.18	5.1
SEPTEMBER	1405	3932	2671	762	.29	7.4
ANNUAL	1392	4586	3016	868	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	801	440	292	198	--	--
3	985	697	548	434	--	--
7	1100	777	599	463	--	--
14	1120	794	612	472	--	--
30	1170	841	659	518	--	--
60	1270	898	720	587	--	--
90	1440	1020	835	698	--	--
120	1570	1130	947	815	--	--
183	1910	1480	1290	1160	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1962-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11600	15600	17900	20600	--	--
3	11500	15200	17200	19300	--	--
7	10900	14500	16300	18200	--	--
15	9430	12500	14100	15900	--	--
30	7370	10100	11800	14100	--	--
60	6000	8180	9670	11600	--	--
90	5390	7250	8430	9870	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1962-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9060	6200	4610	3980	3700	3410	2680	2080	1660	1410	1300	1260	1220	1150	1010

## WILLAMETTE RIVER BASIN

35

14150300 FALL CREEK NEAR LOWELL, OR

LOCATION.--Lat 43°58'15", long 122°38'15", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1963 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 844.42 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--19 years, 411 ft<sup>3</sup>/s, 47.30 in/yr, 297,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft<sup>3</sup>/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, 16 ft<sup>3</sup>/s Oct. 3, 4, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	31	296	111	75	.68	2.2
NOVEMBER	83	1389	519	374	.72	10.5
DECEMBER	61	2282	895	540	.60	18.1
JANUARY	102	1849	1002	509	.51	20.3
FEBRUARY	92	1179	638	288	.45	12.9
MARCH	194	1326	622	313	.50	12.6
APRIL	233	862	503	175	.35	10.2
MAY	99	589	306	118	.39	6.2
JUNE	54	375	170	97	.57	3.4
JULY	46	144	67	24	.36	1.4
AUGUST	25	100	46	21	.46	.9
SEPTEMBER	24	176	59	39	.66	1.2
ANNUAL	183	644	411	124	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	20	18	17	--	--
3	24	20	19	18	--	--
7	25	21	20	19	--	--
14	26	22	21	20	--	--
30	29	24	22	21	--	--
60	37	29	27	25	--	--
90	44	34	30	27	--	--
120	53	41	36	33	--	--
183	104	78	66	57	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4000	6500	10200	12600	15800	--	--
WEIGHTED SKEW = -.298						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4730	6930	8290	9890	--	--
3	3430	5010	6040	7290	--	--
7	2440	3510	4190	5030	--	--
15	1760	2440	2850	3350	--	--
30	1350	1800	2050	2340	--	--
60	1030	1410	1640	1930	--	--
90	927	1240	1430	1650	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1480	962	737	604	503	423	304	206	127	76	60	49	41	34	28

## WILLAMETTE RIVER BASIN

14150800 WINBERRY CREEK NEAR LOWELL, OR

LOCATION.--Lat 43°54'50", long 122°41'15", in NE¼SE¼ 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 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 863.70 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--18 years, 118 ft<sup>3</sup>/s, 36.50 in/yr, 85,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 8.07 ft; minimum, 1.5 ft<sup>3</sup>/s Sept. 4, 5, 8-10, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7.9	83	27	20	.74	1.9
NOVEMBER	22	429	146	116	.79	10.2
DECEMBER	16	668	235	148	.63	16.5
JANUARY	32	512	277	140	.51	19.4
FEBRUARY	20	311	162	73	.45	11.4
MARCH	58	399	182	92	.51	12.8
APRIL	80	362	166	66	.40	11.7
MAY	36	258	122	51	.42	8.6
JUNE	14	170	63	48	.76	4.4
JULY	8.6	47	18	9.3	.52	1.2
AUGUST	3.8	33	11	8.5	.75	.8
SEPTEMBER	4.3	73	15	16	1.07	1.1
ANNUAL	61	182	118	36	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4.3	3.1	2.6	2.2	--	--
3	4.4	3.2	2.7	2.3	--	--
7	4.7	3.4	2.9	2.5	--	--
14	5.1	3.7	3.2	2.7	--	--
30	5.8	4.1	3.5	3.1	--	--
60	7.7	5.6	4.8	4.3	--	--
90	9.4	6.8	5.9	5.3	--	--
120	12	9.0	7.9	7.3	--	--
183	29	20	16	14	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1090	1800	2890	3650	4650	--	--
WEIGHTED SKEW = -.223						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1300	1980	2430	2990	--	--
3	990	1490	1830	2270	--	--
7	687	1010	1240	1550	--	--
15	483	669	792	947	--	--
30	373	493	566	651	--	--
60	286	383	445	522	--	--
90	258	338	385	440	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
404	282	220	183	153	129	94	63	37	20	16	12	9.0	7.1	5.3

## 14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR

LOCATION.--Lat 43°56'40", long 122°46'25", in NW¼ 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. Prior to Aug. 27, 1982 at site on left bank.

DRAINAGE AREA.--186 mi<sup>2</sup>.

PERIOD OF RECORD.--October to December 1911 (published as "Big Fall Creek near Fall Creek"; gage heights and discharge measurements only), September 1935 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 637.81 ft 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. No diversion above station.

AVERAGE DISCHARGE.--47 years, 582 ft<sup>3</sup>/s, 42.49 in/yr, 421,700 acre-ft/yr, adjusted for storage since January 1965.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,700 ft<sup>3</sup>/s Dec. 11, 1956, gage height, 18.80 ft, from rating curve extended above 9,700 ft<sup>3</sup>/s; minimum, 1.5 ft<sup>3</sup>/s Oct. 7, 8, 1965.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF FALL CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-65

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	27	1001	207	228	1.10	2.9
NOVEMBER	26	1588	751	487	.65	10.6
DECEMBER	139	3180	1125	811	.72	15.9
JANUARY	169	2265	1041	630	.61	14.7
FEBRUARY	254	2330	1158	432	.37	16.3
MARCH	149	1806	1020	432	.42	14.4
APRIL	214	1729	765	350	.46	10.8
MAY	151	1149	520	266	.51	7.3
JUNE	68	667	294	160	.54	4.1
JULY	38	169	100	38	.38	1.4
AUGUST	23	79	52	14	.27	.7
SEPTEMBER	31	121	55	23	.42	.8
ANNUAL	306	924	588	136	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	25	23	20	18	--
3	32	26	23	21	19	--
7	33	27	24	22	19	--
14	35	28	25	22	20	--
30	39	31	27	25	22	--
60	46	36	31	28	25	--
90	53	41	36	32	28	--
120	71	51	42	36	30	--
183	158	110	89	74	59	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-65

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
6430	10000	15200	18500	22800	25900	--

WEIGHTED SKEW = -.279

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7510	10700	12700	14900	16400	--
3	5410	7550	8870	10400	11500	--
7	3530	4860	5700	6700	7420	--
15	2490	3240	3670	4160	4480	--
30	1940	2500	2820	3170	3410	--
60	1520	1930	2170	2450	2650	--
90	1330	1680	1880	2120	2280	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-65

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2120	1440	1110	894	731	605	426	291	183	104	78	60	49	41	33



## WILLAMETTE RIVER BASIN

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF FALL CREEK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1967-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	127	1396	649	340	.52	9.4
NOVEMBER	312	1838	861	442	.51	12.4
DECEMBER	183	2312	1272	672	.53	18.4
JANUARY	153	2093	1123	604	.54	16.2
FEBRUARY	24	1391	470	409	.87	6.8
MARCH	11	1618	424	487	1.15	6.1
APRIL	43	1010	363	288	.79	5.2
MAY	50	557	267	148	.55	3.9
JUNE	92	512	240	138	.58	3.5
JULY	47	970	300	292	.97	4.3
AUGUST	78	934	387	291	.75	5.6
SEPTEMBER	115	913	565	243	.43	8.2
ANNUAL	236	936	578	198	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	22	15	11	--	--
3	36	22	15	11	--	--
7	40	26	19	14	--	--
14	46	29	21	15	--	--
30	61	33	23	17	--	--
60	95	49	34	24	--	--
90	155	96	74	60	--	--
120	220	129	94	71	--	--
183	351	257	208	170	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1967-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3500	4310	4620	4870	--	--
3	3350	4130	4440	4690	--	--
7	2920	3800	4200	4570	--	--
15	2250	2970	3340	3710	--	--
30	1670	2210	2510	2830	--	--
60	1340	1840	2100	2370	--	--
90	1180	1590	1800	2000	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1967-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2090	1390	1120	939	798	698	492	306	172	128	107	81	59	48	41

## WILLAMETTE RIVER BASIN

39

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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1935 to September 1948.

GAGE.--Staff gage. Altitude of gage is 715 ft, by barometer.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--13 years (water years 1936-48), 179 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,110 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 8.20 ft, from rating curve extended above 2,400 ft<sup>3</sup>/s on basis of velocity-area study; minimum observed, 10 ft<sup>3</sup>/s Dec. 1, 1936, Aug. 26, 27, 30, 31, Sept. 1, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-48

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	16	223	56	57	1.03	2.6
NOVEMBER	13	477	231	166	.72	10.7
DECEMBER	52	865	304	241	.79	14.0
JANUARY	68	680	329	194	.59	15.2
FEBRUARY	110	490	358	118	.33	16.5
MARCH	77	627	319	163	.51	14.7
APRIL	76	611	249	147	.59	11.5
MAY	49	226	130	58	.44	6.0
JUNE	37	195	94	48	.51	4.3
JULY	21	68	44	16	.36	2.0
AUGUST	13	36	26	7.8	.31	1.2
SEPTEMBER	15	44	25	9.3	.37	1.2
ANNUAL	109	270	179	52	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-48

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10	9.4	--	--
3	15	12	11	9.7	--	--
7	15	12	11	9.7	--	--
14	16	13	11	11	--	--
30	18	14	13	12	--	--
60	21	16	14	13	--	--
90	23	18	16	15	--	--
120	28	21	18	16	--	--
183	49	35	29	25	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-48

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	2580	4300	5550	7210	--	--

WEIGHTED SKEW = -.227

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-48

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1980	2980	3600	4330	--	--
3	1460	2240	2750	3390	--	--
7	1030	1510	1800	2140	--	--
15	766	1060	1220	1400	--	--
30	571	770	882	1010	--	--
60	459	602	682	770	--	--
90	408	534	607	691	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-48

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
614	445	342	278	230	189	134	94	65	42	34	28	23	19	16

## 14152000 MIDDLE FORK WILLAMETTE RIVER AT JASPER, OR

LOCATION.--Lat 43°59'55", long 122°54'20", in SW¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1905 to February 1912, July 1913 to March 1917, October 1952 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 513.45 ft 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, since 1961 by Hills Creek Lake, and since 1966 by Fall Creek Lake.

AVERAGE DISCHARGE.--39 years (water years 1906-11, 1914-16, 1953-82), 4,089 ft<sup>3</sup>/s, 2,962,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s; minimum, 366 ft<sup>3</sup>/s Dec. 5, 1954.

## STATISTICAL SUMMARIES (AFTER COMPLETION OF THREE UPSTREAM DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1967-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STANDARD DEVIATION (CFS)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2946	4685	4052	481	.12	8.2
NOVEMBER	2937	10510	5969	2219	.37	12.1
DECEMBER	1517	14630	8272	3817	.46	16.7
JANUARY	1327	11480	7223	3086	.43	14.6
FEBRUARY	787	9460	4114	2757	.67	8.3
MARCH	1111	10550	3481	2505	.72	7.0
APRIL	729	5603	2902	1549	.53	5.9
MAY	844	4875	2774	1235	.45	5.6
JUNE	1187	5016	2669	1194	.45	5.4
JULY	1248	2562	2005	355	.18	4.1
AUGUST	1818	3340	2427	371	.15	4.9
SEPTEMBER	1830	4703	3521	868	.25	7.1
ANNUAL	1877	6215	4121	1266	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1310	946	753	605	--	--
3	1330	957	762	612	--	--
7	1370	969	770	619	--	--
14	1420	1000	805	654	--	--
30	1520	1090	889	735	--	--
60	1760	1290	1080	921	--	--
90	1940	1410	1170	1000	--	--
120	2100	1520	1270	1100	--	--
183	2490	1950	1710	1530	--	--

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

DISCHARGE, IN CFS, 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%
--	--	--	--	--	--	--
WEIGHTED SKEW =		--				

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, 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	16200	19000	19800	20200	--	--
3	15500	18600	19500	20100	--	--
7	14400	17900	19200	20200	--	--
15	12300	15900	17600	19100	--	--
30	10100	13400	15100	16900	--	--
60	8320	11100	12800	14500	--	--
90	7530	10000	11400	12800	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1967-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
11900	8460	6360	5420	4880	4490	3790	3070	2490	2110	1960	1810	1670	1530	1350

## WILLAMETTE RIVER BASIN

41

14152500 COAST FORK WILLAMETTE RIVER AT LONDON, OR

LOCATION.--Lat 43°38'30", long 123°05'05", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1935 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 852.58 ft 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 above station.

AVERAGE DISCHARGE.--47 years, 201 ft<sup>3</sup>/s, 37.86 in/yr, 145,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 13.37 ft, from rating curve extended above 3,200 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 6.8 ft<sup>3</sup>/s Aug. 18, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	472	62	76	1.23	2.6
NOVEMBER	12	847	235	174	.74	9.7
DECEMBER	26	1333	408	293	.72	16.8
JANUARY	34	852	432	255	.59	17.8
FEBRUARY	46	827	391	163	.42	16.1
MARCH	84	700	353	160	.45	14.6
APRIL	86	611	246	115	.47	10.1
MAY	44	416	146	77	.53	6.0
JUNE	26	240	77	42	.55	3.2
JULY	17	65	32	11	.34	1.3
AUGUST	12	39	20	6.3	.31	.8
SEPTEMBER	9.2	58	22	8.9	.40	.9
ANNUAL	65	344	201	57	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10	9.2	8.3	7.4	6.9
3	13	11	9.4	8.5	7.7	7.1
7	13	11	9.7	8.8	7.9	7.4
14	14	12	10	9.3	8.3	7.7
30	15	13	11	10	9.4	8.8
60	18	15	13	12	11	11
90	20	16	15	14	12	12
120	25	20	18	16	14	13
183	46	34	29	25	22	19

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2270	3630	5840	7480	9760	11600	13500
WEIGHTED SKEW = .017						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2580	4000	4960	6160	7040	7900
3	1950	2860	3420	4050	4480	4880
7	1310	1890	2230	2640	2920	3180
15	911	1260	1470	1710	1880	2030
30	697	926	1050	1190	1280	1360
60	550	725	820	921	984	1040
90	479	625	705	793	850	900

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
742	497	373	294	240	200	139	93	59	36	29	24	20	17	15

## WILLAMETTE RIVER BASIN

14153500 COAST FORK WILLAMETTE RIVER BELOW COTTAGE GROVE DAM, OR

LOCATION.--Lat 43°43'15", long 123°02'55", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1939 to September 1982. Prior to October 1944, published as "near Cottage Grove."

GAGE.--Water-stage recorder. Datum of gage is 711.00 ft 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. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--43 years, 275 ft<sup>3</sup>/s, 35.91 in/yr, 199,200 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 11.83 ft; no flow July 5-7, 1945, and for part of Aug. 24, 1947.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1943-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	24	761	207	141	.68	6.2
NOVEMBER	31	1000	341	241	.71	10.1
DECEMBER	34	1627	590	375	.64	17.5
JANUARY	48	1372	634	385	.61	18.8
FEBRUARY	30	1140	421	238	.57	12.5
MARCH	23	1060	347	246	.71	10.3
APRIL	30	684	208	145	.70	6.2
MAY	48	503	136	105	.77	4.0
JUNE	49	283	93	46	.50	2.8
JULY	24	89	56	13	.24	1.7
AUGUST	26	399	117	95	.81	3.5
SEPTEMBER	46	465	215	96	.45	6.4
ANNUAL	77	468	280	82	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1944-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	41	25	17	12	7.6	5.3
7	43	28	21	15	9.9	7.2
14	45	31	24	19	14	11
30	48	36	30	25	20	17
60	56	43	37	32	27	24
90	67	51	44	38	32	29
120	78	59	51	45	38	35
183	117	97	87	80	73	68

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1943-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2690	3120	3200	3240	3250	3250
3	2470	2930	3030	3080	3090	3090
7	1950	2560	2810	2990	3080	3130
15	1320	1820	2080	2350	2520	2650
30	987	1320	1490	1670	1770	1850
60	754	1010	1120	1230	1280	1330
90	650	860	950	1020	1060	1090

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1943-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1140	679	486	385	307	256	174	109	84	70	63	57	53	49	40

14154500 ROW RIVER ABOVE PITCHER CREEK, NEAR DORENA, OR

LOCATION.--Lat 43°44'10", long 122°52'20", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1935 to September 1982. Prior to October 1949, published as "at Star."

GAGE.--Water-stage recorder. Datum of gage is 856.16 ft 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 above station.

AVERAGE DISCHARGE.--47 years, 599 ft<sup>3</sup>/s, 38.55 in/yr, 434,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.19 ft, from rating curve extended above 12,000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 10 ft<sup>3</sup>/s Sept. 24, 25, 1951, Oct. 7, 8, 1958.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	1152	164	198	1.21	2.3
NOVEMBER	19	2569	733	543	.74	10.2
DECEMBER	58	4114	1187	868	.73	16.4
JANUARY	86	2606	1207	735	.61	16.7
FEBRUARY	81	2159	1100	469	.43	15.2
MARCH	189	2168	1025	478	.47	14.2
APRIL	290	2161	829	359	.43	11.5
MAY	133	1333	555	281	.51	7.7
JUNE	64	692	261	159	.61	3.6
JULY	26	157	74	33	.45	1.0
AUGUST	15	106	38	20	.51	.5
SEPTEMBER	16	259	47	40	.85	.7
ANNUAL	233	1008	599	168	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	13	12	10	9.8
3	19	15	13	12	11	10
7	20	16	14	13	12	11
14	21	17	15	14	12	12
30	24	19	17	15	14	13
60	29	22	20	18	16	15
90	36	27	24	21	19	18
120	51	36	31	27	23	21
183	134	90	72	59	47	40

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7590	11500	17000	20600	25200	28600	31900
WEIGHTED SKEW = -.207						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8140	12200	14800	18000	20300	22500
3	5840	8520	10200	12300	13700	15200
7	3870	5500	6530	7760	8630	9470
15	2670	3650	4230	4900	5360	5790
30	2040	2680	3050	3480	3760	4020
60	1180	1590	2070	2360	2690	2920
90	1390	1790	2030	2300	2490	2660

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2200	1470	1120	901	749	625	426	275	156	78	58	44	35	28	22

## WILLAMETTE RIVER BASIN

14155500 ROW RIVER NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°47'35", long 122°59'25", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1939 to September 1982. Prior to October 1947, published as "near Dorena."

GAGE.--Water-stage recorder. Datum of gage is 685.24 ft 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. No diversion above station.

AVERAGE DISCHARGE.--43 years, 753 ft<sup>3</sup>/s, 37.87 in/yr, 545,500 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 18.20 ft; minimum, 0.20 ft<sup>3</sup>/s Sept. 25 to Oct. 7, 1958.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF DORENA DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-49

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	36	842	185	240	1.30	2.2
NOVEMBER	40	1953	1053	687	.65	12.7
DECEMBER	171	3481	1383	1034	.75	16.7
JANUARY	438	2261	1128	696	.62	13.6
FEBRUARY	370	1942	1372	509	.37	16.5
MARCH	222	1621	1050	431	.41	12.7
APRIL	353	1717	925	456	.49	11.1
MAY	169	1101	632	354	.56	7.6
JUNE	80	833	364	236	.65	4.4
JULY	37	174	99	48	.48	1.2
AUGUST	20	85	48	20	.42	.6
SEPTEMBER	34	148	61	35	.57	.7
ANNUAL	424	1073	688	224	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-49

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-49

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7320	11500	18100	23000	--	--	--
WEIGHTED SKEW = -.026						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-49

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8580	13300	16500	--	--	--
3	6150	9440	11700	--	--	--
7	4040	6140	7580	--	--	--
15	2810	4070	4930	--	--	--
30	2150	2940	3420	--	--	--
60	1670	2280	2680	--	--	--
90	1500	2020	2360	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-49

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2490	1740	1350	1070	865	709	489	317	195	101	74	57	45	36	29





## WILLAMETTE RIVER BASIN

14156000 MOSBY CREEK NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°44'40", long 122°59'00", in NW¼ 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<sup>2</sup>, approximately.

PERIOD OF RECORD.--February 1936 to September 1946.

GAGE.--Staff gage. Altitude of gage is 750 ft, from topographic map.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--10 years (water years 1937-46), 191 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,520 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 10.4 ft from floodmark, from rating curve extended above 2,400 ft<sup>3</sup>/s; minimum, 3 ft<sup>3</sup>/s Aug. 15, to Sept. 2, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1937-46

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.5	77	28	24	.88	1.2
NOVEMBER	6.3	626	252	228	.90	10.9
DECEMBER	46	1143	383	368	.96	16.6
JANUARY	70	779	323	238	.74	14.0
FEBRUARY	110	685	432	174	.40	18.7
MARCH	61	689	366	211	.58	15.9
APRIL	66	644	253	188	.74	11.0
MAY	29	264	130	81	.62	5.6
JUNE	17	258	95	83	.87	4.1
JULY	7.6	39	23	11	.50	1.0
AUGUST	4.0	18	10	4.2	.41	.4
SEPTEMBER	7.2	33	12	7.7	.64	.5
ANNUAL	113	314	191	70	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1938-46

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	5.8	4.2	3.5	3.0	--	--
3	5.9	4.3	3.6	3.1	--	--
7	6.2	4.5	3.7	3.1	--	--
14	6.8	4.8	3.9	3.2	--	--
30	7.6	5.4	4.5	3.8	--	--
60	8.9	6.5	5.6	5.1	--	--
90	10	7.5	6.5	5.8	--	--
120	14	9.4	7.7	6.6	--	--
183	42	24	17	13	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1937-46

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	3540	5800	7600	--	--	--
WEIGHTED SKEW = .237						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1937-46

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2720	4340	5610	--	--	--
3	1950	3030	3840	--	--	--
7	1290	1940	2420	--	--	--
15	898	1330	1660	--	--	--
30	677	948	1130	--	--	--
60	565	791	930	--	--	--
90	479	675	804	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1937-46

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
778	507	364	270	210	169	107	63	37	21	16	12	9.1	7.5	6.3

## WILLAMETTE RIVER BASIN

47

14156500 MOSBY CREEK AT MOUTH, NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°46'35", long 122°59'55", in SE¼NW¼ 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 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--35 years, 241 ft<sup>3</sup>/s, 34.34 in/yr, 174,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 13.37 ft, from rating curve extended above 4,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 2.8 ft<sup>3</sup>/s Aug. 15, 1973, Sept. 24, 1974.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1947-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.4	550	77	103	1.33	2.7
NOVEMBER	15	1069	303	226	.75	10.5
DECEMBER	28	1650	518	343	.66	17.9
JANUARY	38	1014	554	320	.58	19.1
FEBRUARY	50	1012	459	216	.47	15.8
MARCH	112	779	425	189	.44	14.7
APRIL	99	596	271	122	.45	9.4
MAY	41	486	167	102	.61	5.8
JUNE	20	183	70	39	.55	2.4
JULY	8.7	53	22	9.1	.41	.8
AUGUST	5.1	34	13	6.5	.51	.4
SEPTEMBER	4.6	81	17	14	.82	.6
ANNUAL	83	390	241	66	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1948-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	6.1	4.4	3.7	3.3	2.8	--
3	6.3	4.6	3.9	3.4	3.0	--
7	6.7	4.9	4.2	3.7	3.2	--
14	7.3	5.4	4.6	4.0	3.4	--
30	8.4	6.1	5.2	4.5	3.9	--
60	10	7.7	6.6	5.8	5.0	--
90	13	9.3	8.0	7.2	6.4	--
120	18	14	12	11	9.3	--
183	43	31	26	23	20	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1947-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3180	4830	7180	8770	10800	12300	--
WEIGHTED SKEW = -.166						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1947-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3610	5300	6310	7450	8210	--
3	2710	3790	4400	5070	5490	--
7	1790	2480	2870	3320	3620	--
15	1190	1580	1800	2050	2220	--
30	901	1150	1280	1410	1500	--
60	684	887	997	1120	1190	--
90	591	753	843	942	1010	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1947-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
969	612	443	342	276	225	148	92	53	29	21	17	13	9.9	7.4

## WILLAMETTE RIVER BASIN

14157000 COAST FORK WILLAMETTE RIVER AT SAGINAW, OR

LOCATION.--Lat 43°50'05", long 123°02'30", in NW¼ 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 mi<sup>2</sup>.

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 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 above 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 ft<sup>3</sup>/s, 894,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 12.38 ft, from rating curve extended above 24,000 ft<sup>3</sup>/s; minimum observed, 15 ft<sup>3</sup>/s Aug. 1, Sept. 4, 1928.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1924-42

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	43	1081	251	258	1.03	1.9
NOVEMBER	45	5677	1312	1449	1.10	10.0
DECEMBER	396	3845	1754	916	.52	13.4
JANUARY	516	5444	2101	1275	.61	16.0
FEBRUARY	660	5385	2437	1341	.55	18.6
MARCH	459	4506	2004	1239	.62	15.3
APRIL	509	4389	1588	976	.61	12.1
MAY	247	1904	887	484	.55	6.8
JUNE	115	1533	515	388	.75	3.9
JULY	53	348	137	80	.58	1.0
AUGUST	33	114	65	26	.40	.5
SEPTEMBER	38	242	76	49	.64	.6
ANNUAL	621	1716	1086	355	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1925-42

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	22	19	17	--	--
3	33	24	20	18	--	--
7	35	26	22	20	--	--
14	38	29	26	24	--	--
30	43	34	31	29	--	--
60	51	39	36	34	--	--
90	59	47	43	41	--	--
120	74	58	53	51	--	--
183	173	122	105	95	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1924-42

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	18300	24300	28300	33400	--	--
WEIGHTED SKEW = .106						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1924-42

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13900	18200	21000	24600	--	--
3	10500	14000	16200	19100	--	--
7	7340	9460	10700	12000	--	--
15	5120	6640	7560	8620	--	--
30	3870	4930	5550	6240	--	--
60	2290	3710	4110	4550	--	--
90	2570	3250	3640	4080	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1924-42

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4210	2780	2050	1650	1380	1140	765	471	267	134	103	79	63	51	40

## 14157500 COAST FORK WILLAMETTE RIVER NEAR GOSHEN, OR

LOCATION.--Lat 43°58'50", long 122°57'55", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1905 to February 1912, October 1950 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 473.80 ft 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 and since 1949 by Dorena Lake. Several small diversions for logponds and irrigation above station.

AVERAGE DISCHARGE.--38 years (water years 1906-11, 1951-82), 1,649 ft<sup>3</sup>/s, 1,195,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft<sup>3</sup>/s Nov. 22, 1909, gage height, 19.5 ft, site and datum then in use, from rating curve extended above 15,000 ft<sup>3</sup>/s; minimum, 36 ft<sup>3</sup>/s Sept. 29, 30, Oct. 11, 12, 1908.

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF COTTAGE GROVE AND DORENA DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1951-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	204	3119	779	563	.72	3.9
NOVEMBER	121	6305	1948	1545	.79	9.8
DECEMBER	196	9820	3702	2357	.64	18.7
JANUARY	200	7239	3797	2116	.56	19.1
FEBRUARY	203	6891	2787	1451	.52	14.1
MARCH	510	5716	2373	1416	.60	12.0
APRIL	503	4020	1576	879	.56	7.9
MAY	341	3285	988	694	.70	5.0
JUNE	218	1445	521	265	.51	2.6
JULY	159	588	290	107	.37	1.5
AUGUST	147	1115	530	290	.55	2.7
SEPTEMBER	171	1057	545	212	.39	2.7
ANNUAL	512	2701	1650	478	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1952-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	157	128	114	102	90	--
3	163	135	121	110	98	--
7	172	144	129	117	104	--
14	181	150	135	123	110	--
30	205	168	152	140	128	--
60	273	208	180	160	140	--
90	352	265	226	197	169	--
120	416	328	284	250	212	--
183	520	427	386	356	326	--

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

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

-- -- -- -- --  
WEIGHTED SKEW = --

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1951-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13100	18200	21100	24400	26500	--
3	10700	14400	16500	18800	20300	--
7	9540	12600	14100	15400	16200	--
15	7580	10000	11200	12400	13100	--
30	5950	7760	8640	9490	9970	--
60	4620	6050	6710	7330	7670	--
90	3950	5190	5770	6310	6600	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1951-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7010	4660	3130	2290	1770	1390	973	734	572	446	374	314	266	223	182

## WILLAMETTE RIVER BASIN

## 14158000 WILLAMETTE RIVER AT SPRINGFIELD, OR

LOCATION.--Lat 44°02'45", long 123°01'40", in SE¼ 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 mi<sup>2</sup>, 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 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 above station.

AVERAGE DISCHARGE.--40 years (water years 1912-13, 1920-57), 5,453 ft<sup>3</sup>/s, 3,948,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 140,000 ft<sup>3</sup>/s Dec. 29, 1945, gage height, 20.9 ft, from rating curve extended above 93,000 ft<sup>3</sup>/s; minimum, 500 ft<sup>3</sup>/s Aug. 11, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage recorded by U.S. Weather Bureau, 22.0 ft Jan. 25, 1903, at Eugene. Floods of Dec. 4, 1861, and Feb. 3, 1890, reached about the same stage.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF UPSTREAM RESERVOIRS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-42

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	659	4999	1411	906	.64	2.4
NOVEMBER	629	15190	5216	3887	.75	8.8
DECEMBER	1723	15250	7184	3476	.48	12.1
JANUARY	1961	17240	8978	4871	.54	15.2
FEBRUARY	2733	18220	8891	4644	.52	15.0
MARCH	2218	16890	7626	3506	.46	12.9
APRIL	2708	15340	7080	3050	.43	12.0
MAY	2014	8976	5400	2230	.41	9.1
JUNE	1121	9708	3926	2281	.58	6.6
JULY	726	4399	1598	811	.51	2.7
AUGUST	547	1482	913	239	.26	1.5
SEPTEMBER	614	2669	989	451	.46	1.7
ANNUAL	2783	7247	4911	1392	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1913-42

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	650	562	527	503	480	--
3	661	574	540	515	492	--
7	674	584	548	522	496	--
14	691	599	562	536	511	--
30	734	628	583	550	518	--
60	795	666	616	581	549	--
90	869	709	645	599	555	--
120	962	765	690	640	592	--
183	1530	1130	985	886	794	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-42

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
38000	50900	68100	79100	92700	103000	--
WEIGHTED SKEW = -.039						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-42

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	44300	58400	66800	76600	83400	--
3	35000	45400	51200	57600	61800	--
7	25300	32800	36800	40900	43500	--
15	19300	24600	27600	30700	32700	--
30	14600	17800	19500	21100	22100	--
60	11300	13900	15400	17200	18300	--
90	9870	12100	13400	14900	15800	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-42

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
14800	10900	8860	7550	6530	5670	4330	3130	2110	1360	1160	990	856	753	666

## WILLAMETTE RIVER BASIN

51

## 14158500 MCKENZIE RIVER AT OUTLET OF CLEAR LAKE, OR

LOCATION.--Lat 44°21'40", long 121°59'40", in SE¼ 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 mi<sup>2</sup>, hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--June 1912 to September 1915, October 1947 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 3,015.32 ft 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 above station.

AVERAGE DISCHARGE.--38 years, 469 ft<sup>3</sup>/s, 68.93 in/yr, 339,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,300 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 8.15 ft; minimum, 137 ft<sup>3</sup>/s Sept. 23, 1977, Nov. 4, 1980.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1913-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	145	428	262	70	.27	4.7
NOVEMBER	163	829	379	134	.35	6.7
DECEMBER	209	1209	558	249	.45	9.9
JANUARY	191	999	531	214	.40	9.4
FEBRUARY	180	986	531	214	.40	9.4
MARCH	224	1205	482	179	.37	8.6
APRIL	341	815	574	134	.23	10.2
MAY	370	1178	717	218	.30	12.7
JUNE	303	1202	608	250	.41	10.8
JULY	173	737	410	137	.33	7.3
AUGUST	149	499	316	96	.31	5.6
SEPTEMBER	143	392	263	67	.25	4.7
ANNUAL	241	683	469	102	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1914-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	210	173	156	143	130	--
3	211	174	157	144	131	--
7	212	175	158	145	132	--
14	215	177	160	146	133	--
30	223	183	164	151	136	--
60	237	192	172	157	141	--
90	251	203	181	165	148	--
120	268	215	192	174	156	--
183	315	255	230	213	195	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1913-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1380	1890	2220	2630	2940	--
3	1270	1690	1950	2260	2490	--
7	1150	1480	1690	1940	2110	--
15	1040	1270	1410	1550	1650	--
30	923	1110	1210	1310	1380	--
60	789	948	1030	1120	1180	--
90	719	852	920	989	1030	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1913-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
970	819	718	641	583	531	453	404	360	314	290	269	245	220	193

## WILLAMETTE RIVER BASIN

14158790 SMITH RIVER ABOVE SMITH RIVER RESERVOIR, NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat 44°20'05", long 122°02'45", in SW¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1960 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,610.00 ft 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 above station.

AVERAGE DISCHARGE.--22 years, 91.2 ft<sup>3</sup>/s, 76.45 in/yr, 66,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,160 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.9 ft, from floodmark, from rating curve extended above 560 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 2.5 ft<sup>3</sup>/s Sept. 15-18, 1980.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	4.3	76	25	21	.84	2.2
NOVEMBER	13	213	112	68	.61	10.2
DECEMBER	9.9	404	167	94	.56	15.2
JANUARY	14	293	136	71	.52	12.4
FEBRUARY	13	309	134	84	.63	12.2
MARCH	48	321	100	59	.59	9.1
APRIL	50	260	133	53	.40	12.1
MAY	53	318	172	80	.47	15.7
JUNE	22	260	85	64	.76	7.7
JULY	7.4	52	18	12	.67	1.7
AUGUST	4.2	12	7.1	2.4	.33	.6
SEPTEMBER	4.2	24	8.3	5.0	.61	.8
ANNUAL	39	136	91	24	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3.8	3.2	3.0	2.8	--	--
3	3.8	3.3	3.0	2.8	--	--
7	3.9	3.3	3.1	2.9	--	--
14	4.2	3.5	3.2	3.1	--	--
30	4.6	3.9	3.6	3.4	--	--
60	5.5	4.6	4.3	4.1	--	--
90	7.0	5.5	4.9	4.5	--	--
120	10	7.3	6.3	5.5	--	--
183	29	20	16	13	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
737	1040	1570	2010	2660	--	--
WEIGHTED SKEW = .614						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	776	1130	1390	1750	--	--
3	631	879	1050	1260	--	--
7	491	650	744	855	--	--
15	354	436	482	532	--	--
30	279	333	363	397	--	--
60	212	251	273	298	--	--
90	187	222	240	261	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
320	218	175	148	124	104	75	53	35	17	12	8.7	6.7	5.4	4.4

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1959 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,980.00 ft 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. Diurnal fluctuations by powerplants and by Trail Bridge reregulating reservoir upstream. Water is diverted from McKenzie River in SW $\frac{1}{4}$  sec.20, T.14 S., R.7 E., to Smith River Reservoir and returned to river above station.

AVERAGE DISCHARGE.--23 years, 1,029 ft<sup>3</sup>/s, 75.94 in/yr, 745,500 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 12.45 ft, from rating curve extended above 3,700 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 185 ft<sup>3</sup>/s Feb. 3, 1963; minimum daily, 425 ft<sup>3</sup>/s Nov. 23, 1964.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	520	858	677	87	.13	5.5
NOVEMBER	614	1361	917	226	.25	7.4
DECEMBER	634	2500	1299	473	.36	10.5
JANUARY	601	1932	1280	362	.28	10.4
FEBRUARY	580	1813	1188	333	.28	9.6
MARCH	731	2332	1116	351	.31	9.1
APRIL	885	1568	1115	196	.18	9.1
MAY	834	1903	1308	339	.26	10.6
JUNE	728	1888	1119	346	.31	9.1
JULY	585	1267	859	203	.24	7.0
AUGUST	552	1034	747	154	.21	6.1
SEPTEMBER	535	913	691	120	.17	5.6
ANNUAL	700	1404	1026	184	.18	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	561	505	477	455	--	--
3	574	522	499	482	--	--
7	589	537	516	502	--	--
14	608	552	530	514	--	--
30	624	563	538	521	--	--
60	640	576	548	529	--	--
90	658	589	559	538	--	--
120	680	605	573	549	--	--
183	764	670	631	602	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2830	4110	5020	6240	--	--
3	2540	3640	4450	5580	--	--
7	2240	3050	3620	4400	--	--
15	1950	2480	2820	3240	--	--
30	1710	2080	2300	2550	--	--
60	1500	1790	1960	2160	--	--
90	1400	1650	1790	1960	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1790	1570	1410	1300	1210	1130	1020	929	844	763	726	691	657	613	571



## WILLAMETTE RIVER BASIN

## 14159000 MCKENZIE RIVER AT MCKENZIE BRIDGE, OR

LOCATION.--Lat 44°10'45", long 122°07'45", on line between NE¼ and NW¼ 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 mi<sup>2</sup> at cableway 1.2 mi upstream, where all discharge measurements are made.

PERIOD OF RECORD.--August 1910 to September 1982. 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.

GAGE.--Water-stage recorder. Datum of gage is 1,419.04 ft 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. No diversion above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--72 years, 1,681 ft<sup>3</sup>/s, 1,218,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 10.36 ft, from rating curve extended above 7,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 805 ft<sup>3</sup>/s Oct. 20, 1931.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF SMITH RIVER AND TRAIL BRIDGE DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1911-62

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1912-62

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	833	1904	1172	239	.20	5.9
NOVEMBER	882	2951	1569	473	.30	7.9
DECEMBER	952	3970	1904	667	.35	9.5
JANUARY	936	3557	1907	605	.32	9.6
FEBRUARY	1020	3443	1931	600	.31	9.7
MARCH	1114	3023	1788	400	.22	9.0
APRIL	1072	2632	1972	387	.20	9.9
MAY	1203	3422	2065	487	.24	10.3
JUNE	1040	3809	1842	564	.31	9.2
JULY	954	2333	1448	318	.22	7.3
AUGUST	871	1657	1225	196	.16	6.1
SEPTEMBER	864	1500	1138	164	.14	5.7
ANNUAL	1098	2397	1662	264	.16	100

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1040	927	872	827	778	746
3	1040	929	873	828	779	747
7	1040	932	876	831	782	750
14	1050	939	883	837	787	755
30	1070	952	893	845	793	759
60	1100	970	907	857	803	769
90	1130	993	926	873	816	780
120	1170	1020	952	897	838	800
183	1290	1110	1030	960	893	851

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1911-62MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1911-62

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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
WEIGHTED SKEW = -.029						

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5280	7370	8740	10500	11700	13000
3	4520	6150	7190	8480	9420	10300
7	3830	4930	5580	6330	6850	7340
15	3240	3990	4410	4890	5200	5500
30	2790	3320	3610	3910	4110	4290
60	2460	2870	3100	3320	3460	3590
90	2280	2630	2810	3010	3130	3250

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1911-62

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2870	2490	2270	2090	1960	1830	1630	1490	1370	1270	1210	1160	1110	1030	950

## WILLAMETTE RIVER BASIN

55

14159000 MCKENZIE RIVER AT MCKENZIE BRIDGE, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF SMITH RIVER AND TRAIL BRIDGE DAMS)

MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	928	1365	1127	124	.11	5.4
NOVEMBER	1068	2425	1570	414	.26	7.5
DECEMBER	1082	4367	2298	867	.38	11.0
JANUARY	1052	3370	2303	670	.29	11.0
FEBRUARY	1027	3382	2084	616	.30	10.0
MARCH	1331	3973	1920	584	.30	9.2
APRIL	1403	2630	1887	356	.19	9.0
MAY	1406	3041	2099	548	.26	10.1
JUNE	1269	3033	1798	513	.29	8.6
JULY	1058	2053	1426	297	.21	6.8
AUGUST	988	1670	1231	216	.18	5.9
SEPTEMBER	954	1449	1138	161	.14	5.4
ANNUAL	1203	2377	1739	315	.18	100

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	970	907	883	867	--	--
3	985	917	892	875	--	--
7	998	928	902	885	--	--
14	1020	946	918	899	--	--
30	1040	965	934	913	--	--
60	1060	982	950	927	--	--
90	1090	1000	969	945	--	--
120	1130	1030	994	969	--	--
183	1260	1140	1090	1060	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5730	8140	9640	11400	--	--
3	4950	7150	8640	10600	--	--
7	4190	5730	6730	7970	--	--
15	3510	4490	5080	5770	--	--
30	2970	3640	4040	4500	--	--
60	2580	3100	3420	3810	--	--
90	2410	2870	3150	3470	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3140	2660	2400	2190	2020	1890	1680	1540	1410	1290	1220	1160	1110	1050	989

## 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 mi<sup>2</sup> at cableway 0.2 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--October 1957 to September 1982. Prior to October 1971, published as "South Fork McKenzie River above Cougar Reservoir".

GAGE.--Water-stage recorder. Datum of gage is 1,709.51 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--25 years, 637 ft<sup>3</sup>/s, 54.07 in/yr, 461,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 20.06 ft, from floodmark, from rating curve extended above 7,600 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 171 ft<sup>3</sup>/s Sept. 16, 17, 1981.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1958-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	188	442	277	67	.24	3.6
NOVEMBER	261	1121	606	281	.46	7.9
DECEMBER	231	2915	1001	588	.59	13.1
JANUARY	234	1827	952	450	.47	12.4
FEBRUARY	232	1778	889	386	.43	11.6
MARCH	410	2065	763	335	.44	10.0
APRIL	445	1391	833	225	.27	10.9
MAY	426	1383	929	277	.30	12.1
JUNE	298	1418	622	295	.47	8.1
JULY	221	457	302	70	.23	3.9
AUGUST	196	338	242	34	.14	3.2
SEPTEMBER	197	304	236	27	.11	3.1
ANNUAL	346	917	636	144	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1959-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	204	190	184	178	172	--
3	204	191	184	179	173	--
7	206	192	185	179	173	--
14	208	195	188	182	176	--
30	214	199	192	187	181	--
60	221	206	199	194	188	--
90	231	215	207	201	195	--
120	242	224	217	213	209	--
183	327	283	266	255	244	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1958-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3440	5020	7600	9580	12400	14800	--
WEIGHTED SKEW = .343						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1958-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4050	6240	7760	9730	11200	--
3	3100	4930	6430	8680	10700	--
7	2360	3530	4430	5740	6840	--
15	1780	2450	2930	3590	4120	--
30	1430	1880	2190	2620	2960	--
60	1180	1490	1710	2000	2220	--
90	1080	1350	1520	1740	1890	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1958-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1570	1230	1040	907	807	725	587	475	366	287	263	248	233	220	206

WILLAMETTE RIVER BASIN

57

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR

LOCATION.--Lat 44°08'10", long 122°14'50", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,236.42 ft National Geodetic Vertical Datum of 1929 (Bureau of Public Roads 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, usable capacity, 165,000 acre-ft. No diversion above station.

AVERAGE DISCHARGE.--35 years, 868 ft<sup>3</sup>/s, 56.67 in/yr, 628,900 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft<sup>3</sup>/s Dec. 11, 1956, gage height, 8.66 ft, from rating curve extended above 8,100 ft<sup>3</sup>/s; maximum gage height, 8.90 ft Dec. 22, 1955 (backwater from debris); minimum discharge, 17 ft<sup>3</sup>/s Nov. 18, 1965; minimum daily, 85 ft<sup>3</sup>/s Apr. 26-28, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 24,500 ft<sup>3</sup>/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 (BEFORE THE CONSTRUCTION OF COUGAR DAM)

MONTHLY AND ANNUAL MEAN DISCHARGES 1948-62

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	242	1081	472	256	.54	4.2
NOVEMBER	265	1804	967	495	.51	8.7
DECEMBER	444	3484	1334	794	.60	11.9
JANUARY	465	2809	1211	702	.58	10.8
FEBRUARY	759	2279	1426	518	.36	12.8
MARCH	756	1921	1141	374	.33	10.2
APRIL	979	1827	1381	289	.21	12.4
MAY	861	2175	1401	371	.26	12.5
JUNE	457	1796	914	394	.43	8.2
JULY	272	543	373	85	.23	3.3
AUGUST	228	323	280	27	.10	2.5
SEPTEMBER	220	314	265	28	.10	2.4
ANNUAL	749	1300	927	137	.15	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1949-62

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	233	214	206	199	--	--
3	235	216	207	200	--	--
7	238	218	209	201	--	--
14	241	221	212	205	--	--
30	248	229	221	214	--	--
60	261	242	234	227	--	--
90	277	254	244	237	--	--
120	298	267	255	246	--	--
183	447	364	333	313	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1948-62

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5830	9110	14000	17400	21900	--	--
WEIGHTED SKEW = -.128						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1948-62

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6950	10500	13000	16100	--	--
3	5380	7480	8830	10500	--	--
7	3790	4910	5630	6510	--	--
15	2740	3460	3940	4540	--	--
30	2240	2830	3240	3780	--	--
60	1830	2210	2460	2770	--	--
90	1660	1940	2120	2340	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1948-62

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2390	1880	1590	1380	1220	1090	859	672	503	366	324	299	278	260	241

## WILLAMETTE RIVER BASIN

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF COUGAR DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	185	1947	933	315	.34	9.5
NOVEMBER	276	2403	1191	487	.41	12.1
DECEMBER	210	3221	1468	818	.56	15.0
JANUARY	267	3246	1286	631	.49	13.1
FEBRUARY	157	2030	723	592	.82	7.4
MARCH	101	2571	532	542	1.02	5.4
APRIL	90	885	461	233	.51	4.7
MAY	158	1494	728	450	.62	7.4
JUNE	250	1584	683	364	.53	7.0
JULY	251	513	410	64	.16	4.2
AUGUST	397	823	587	127	.22	6.0
SEPTEMBER	560	1084	806	113	.14	8.2
ANNUAL	453	1243	818	225	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	159	116	97	84	--	--
3	185	131	107	89	--	--
7	217	148	117	94	--	--
14	230	156	122	98	--	--
30	256	167	128	100	--	--
60	304	200	158	128	--	--
90	411	281	225	184	--	--
120	444	310	254	214	--	--
183	553	443	396	361	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4530	5590	5930	6150	--	--
3	4100	5350	5860	6280	--	--
7	3340	4640	5350	6090	--	--
15	2550	3660	4410	5350	--	--
30	1950	2680	3170	3800	--	--
60	1520	2070	2480	3050	--	--
90	1360	1840	2170	2610	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2170	1500	1180	1060	979	916	817	677	473	369	327	301	284	258	198

## 14161100 BLUE RIVER BELOW TIDBITS CREEK, NEAR BLUE RIVER, OR

LOCATION.--Lat 44°13'05", long 122°15'50", in SE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1963 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,386.90 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--19 years, 259 ft<sup>3</sup>/s, 76.80 in/yr, 187,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 15.32 ft, from floodmarks, from rating curve extended above 2,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 8.2 ft<sup>3</sup>/s Sept. 28, 29, Oct. 2-4, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	180	73	52	.72	2.3
NOVEMBER	46	731	327	212	.65	10.4
DECEMBER	33	1471	598	352	.59	19.0
JANUARY	48	1033	540	293	.54	17.2
FEBRUARY	65	914	430	235	.55	13.7
MARCH	128	995	340	203	.60	10.8
APRIL	147	529	330	110	.33	10.5
MAY	100	521	281	127	.45	8.9
JUNE	45	320	130	83	.64	4.1
JULY	23	73	39	15	.37	1.2
AUGUST	13	52	23	9.4	.41	.7
SEPTEMBER	11	82	30	21	.69	1.0
ANNUAL	106	404	261	76	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10.0	9.2	8.7	--	--
3	12	10	9.4	8.8	--	--
7	13	10	9.6	9.1	--	--
14	13	11	10	9.4	--	--
30	15	12	11	10	--	--
60	18	14	13	12	--	--
90	23	17	15	14	--	--
120	30	23	20	17	--	--
183	68	49	41	35	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2830	4080	6180	7850	10300	--	--
WEIGHTED SKEW = .471						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3110	4770	5910	7390	--	--
3	2340	3550	4370	5410	--	--
7	1740	2450	2870	3330	--	--
15	1130	1540	1770	2030	--	--
30	860	1150	1310	1490	--	--
60	656	869	1000	1170	--	--
90	580	755	864	997	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
905	587	450	377	317	270	200	140	85	46	35	27	22	18	14

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1949 to September 1955, September 1963 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,377.76 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--25 years, 127 ft<sup>3</sup>/s, 71.56 in/yr, 92,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 8.88 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 4.8 ft<sup>3</sup>/s Sept. 16, 17, 1981.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1950-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.9	179	41	43	1.04	2.7
NOVEMBER	10	322	142	95	.67	9.3
DECEMBER	20	794	252	166	.66	16.5
JANUARY	25	591	259	141	.54	17.0
FEBRUARY	27	435	216	105	.49	14.2
MARCH	61	420	164	84	.51	10.7
APRIL	70	282	167	56	.33	10.9
MAY	55	255	146	60	.41	9.6
JUNE	30	212	81	50	.62	5.3
JULY	16	46	27	9.1	.34	1.8
AUGUST	9.6	22	16	3.6	.23	1.0
SEPTEMBER	8.6	41	16	6.8	.42	1.1
ANNUAL	49	182	127	33	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1951-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.3	7.5	6.6	5.9	5.2	--
3	9.4	7.6	6.7	6.0	5.2	--
7	9.7	7.8	6.8	6.1	5.4	--
14	10	8.2	7.3	6.6	5.8	--
30	11	9.0	8.1	7.4	6.6	--
60	13	10	9.4	8.5	7.7	--
90	15	12	11	9.9	9.0	--
120	18	15	13	12	12	--
183	35	26	23	21	19	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1950-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1200	1750	2680	3440	4560	5520	--
WEIGHTED SKEW = .494						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1950-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1380	2110	2560	3090	3460	--
3	1030	1560	1910	2340	2650	--
7	734	1070	1280	1530	1710	--
15	503	701	822	964	1060	--
30	399	539	624	721	788	--
60	306	400	457	524	571	--
90	277	354	396	444	475	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1950-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
417	285	226	189	161	140	105	76	49	27	22	18	16	13	11

## WILLAMETTE RIVER BASIN

61

14162000 BLUE RIVER NEAR BLUE RIVER, OR

LOCATION.--Lat 44°10'55", long 122°16'45", in NW¼ 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, and at mile 5.1.

DRAINAGE AREA.--75.0 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--29 years (water years 1936-64), 393 ft<sup>3</sup>/s, 284,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 9.80 ft, from rating curve extended above 7,400 ft<sup>3</sup>/s; minimum, 11 ft<sup>3</sup>/s Aug. 21, 22, 1961.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-64

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	18	622	153	169	1.10	3.2
NOVEMBER	18	1356	516	338	.66	10.9
DECEMBER	139	1668	690	436	.63	14.6
JANUARY	69	1821	641	399	.62	13.5
FEBRUARY	238	1456	705	310	.44	14.9
MARCH	165	1062	580	221	.38	12.2
APRIL	164	1089	623	207	.33	13.2
MAY	123	819	461	212	.46	9.7
JUNE	50	553	225	135	.60	4.8
JULY	26	137	69	26	.37	1.5
AUGUST	18	54	35	9.6	.27	.7
SEPTEMBER	20	121	38	22	.58	.8
ANNUAL	218	589	393	87	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-64

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	16	15	14	13	--
3	20	17	15	14	13	--
7	21	17	16	15	14	--
14	22	18	17	16	15	--
30	25	20	18	17	16	--
60	30	24	21	19	17	--
90	36	27	24	21	19	--
120	48	34	28	25	21	--
183	113	76	62	53	44	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-64

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4000	5740	8220	9910	12100	13700	--
WEIGHTED SKEW = -.026						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-64

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4380	6360	7760	9630	11100	--
3	3260	4520	5370	6450	7270	--
7	2220	2950	3390	3910	4260	--
15	1550	2050	2360	2740	3010	--
30	1200	1590	1810	2070	2250	--
60	938	1200	1350	1530	1640	--
90	855	1050	1160	1260	1330	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-64

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1320	918	729	607	513	435	316	226	142	76	55	43	34	28	23



## WILLAMETTE RIVER BASIN

## 14162200 BLUE RIVER AT BLUE RIVER, OR

LOCATION.--Lat 44°09'45", long 122°19'55", in NW¼ 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 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 1,056.53 ft 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. No diversion above station. Discharge not adjusted for storage or release from Blue River Lake as losses from reservoir at times exceed natural flow.

AVERAGE DISCHARGE.--16 years, 469 ft<sup>3</sup>/s, 339,800 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,270 ft<sup>3</sup>/s Feb. 23, 1968, gage height, 8.93 ft; minimum, 0.80 ft<sup>3</sup>/s Oct. 8, 10, 11, 1968; minimum daily, 3.7 ft<sup>3</sup>/s Oct. 8, 1968.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	71	429	232	110	.47	4.0
NOVEMBER	130	1459	580	357	.62	10.1
DECEMBER	63	2189	1182	599	.51	20.5
JANUARY	68	1371	893	425	.48	15.5
FEBRUARY	33	1167	466	384	.82	8.1
MARCH	12	1766	379	473	1.25	6.6
APRIL	12	577	304	194	.64	5.3
MAY	35	676	370	213	.58	6.4
JUNE	64	516	241	131	.54	4.2
JULY	99	626	375	168	.45	6.5
AUGUST	326	765	485	113	.23	8.4
SEPTEMBER	83	536	246	133	.54	4.3
ANNUAL	192	727	481	147	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	15	12	9.1	--	--
3	27	16	12	9.2	--	--
7	29	16	12	8.9	--	--
14	37	21	15	11	--	--
30	56	27	17	12	--	--
60	114	55	35	24	--	--
90	195	97	61	40	--	--
120	291	175	116	75	--	--
183	310	218	163	121	--	--

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

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

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	--	--	--	--	--	--
3	--	--	--	--	--	--
7	2840	3310	3390	3410	--	--
15	2130	2540	2650	2710	--	--
30	1590	2000	2170	2310	--	--
60	1190	1550	1740	1930	--	--
90	1000	1290	1440	1590	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
1830	1070	782	658	576	526	413	301	215	133	97	69	56	39

## 14162500 MCKENZIE RIVER NEAR VIDA, OR

LOCATION.--Lat 44°07'30", long 122°28'10", in NE¼NE¼ 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 mi<sup>2</sup> 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 September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 855.71 ft 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 and Cougar Lake, and since 1968 by Blue River Lake. No diversion above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--58 years (water years 1925-82), 4,036 ft<sup>3</sup>/s, 2,924,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,400 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 17.70 ft, site and datum then in use, from rating curve extended above 32,000 ft<sup>3</sup>/s; minimum, 1,260 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF SMITH RIVER, COUGAR, AND BLUE RIVER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1925-62

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1330	5062	2169	876	.40	4.5
NOVEMBER	1367	8573	4140	2106	.51	8.6
DECEMBER	1840	13770	5395	2742	.51	11.2
JANUARY	1658	11570	5327	2387	.45	11.1
FEBRUARY	2343	10560	5659	2209	.39	11.8
MARCH	2250	9749	5177	1542	.30	10.8
APRIL	2312	7496	5368	1316	.25	11.2
MAY	2528	8394	5018	1510	.30	10.4
JUNE	1750	8986	3853	1533	.40	8.0
JULY	1505	3589	2374	547	.23	4.9
AUGUST	1361	2578	1889	317	.17	3.9
SEPTEMBER	1314	2371	1764	268	.15	3.7
ANNUAL	2476	6211	4001	843	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1926-62

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1560	1390	1310	1250	1190	--
3	1570	1400	1320	1260	1190	--
7	1580	1400	1320	1260	1200	--
14	1600	1420	1340	1270	1200	--
30	1640	1450	1360	1290	1210	--
60	1700	1490	1390	1320	1240	--
90	1770	1530	1420	1340	1260	--
120	1880	1610	1480	1390	1300	--
183	2330	1900	1710	1580	1450	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1925-62

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
20100	28700	40300	47800	56900	63500	--
WEIGHTED SKEW = -.197						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1925-62

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	24200	33600	39300	46000	50600	--
3	19000	25900	30200	35300	38900	--
7	14300	18500	20900	23500	25300	--
15	10800	13700	15300	17000	18200	--
30	8690	10800	12100	13500	14400	--
60	7220	8850	9810	10900	11700	--
90	6620	7960	8700	9500	10000	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1925-62

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
8980	7130	6220	5580	5040	4580	3800	3130	2600	2190	2040	1890	1750	1630	1470

## WILLAMETTE RIVER BASIN

14162500 MCKENZIE RIVER NEAR VIDA, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF SMITH RIVER, COUGAR, AND BLUE RIVER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1706	3676	2757	456	.17	5.6
NOVEMBER	2413	7477	4408	1517	.34	8.9
DECEMBER	1865	14430	6766	3321	.49	13.7
JANUARY	1752	11180	6554	2340	.36	13.3
FEBRUARY	1542	8772	4851	1896	.39	9.8
MARCH	2414	11210	4284	1993	.47	8.7
APRIL	2671	5681	3951	956	.24	8.0
MAY	2421	6567	4342	1363	.31	8.8
JUNE	2180	6604	3608	1272	.35	7.3
JULY	1813	3529	2654	447	.17	5.4
AUGUST	1824	3510	2631	506	.19	5.3
SEPTEMBER	1874	3358	2575	388	.15	5.2
ANNUAL	2447	5823	4115	910	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1810	1590	1500	1430	--	--
3	1860	1630	1530	1460	--	--
7	1970	1690	1570	1480	--	--
14	2040	1760	1640	1550	--	--
30	2190	1880	1730	1620	--	--
60	2300	1980	1850	1740	--	--
90	2400	2080	1940	1820	--	--
120	2470	2180	2050	1950	--	--
183	2710	2410	2280	2190	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15700	21800	25200	29000	--	--
3	13200	19000	22800	27500	--	--
7	12000	16400	18900	21600	--	--
15	10500	13600	15300	16900	--	--
30	8550	11200	12600	14300	--	--
60	7140	9300	10600	12100	--	--
90	6510	8360	9430	10600	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9650	7270	6000	5240	4720	4270	3640	3220	2910	2670	2560	2450	2330	2210	1980

## WILLAMETTE RIVER BASIN

65

## 14163000 GATE CREEK AT VIDA, OR

LOCATION.--Lat 44°08'45", long 122°34'15", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1951 to September 1957; annual maximums, water years 1958-65; August 1966 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 764.56 ft 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 above station.

AVERAGE DISCHARGE.--22 years (water years 1952-57, 1967-82), 214 ft<sup>3</sup>/s, 61.05 in/yr, 155,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,140 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 12.18 ft, from slope-area measurement of peak flow; minimum, 12 ft<sup>3</sup>/s Nov. 26, 27, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1952-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	17	253	72	57	.79	2.8
NOVEMBER	19	704	244	179	.73	9.5
DECEMBER	33	927	461	223	.48	17.9
JANUARY	53	879	455	230	.51	17.7
FEBRUARY	60	769	380	170	.45	14.8
MARCH	110	644	348	154	.44	13.5
APRIL	124	515	267	87	.33	10.4
MAY	74	274	154	59	.38	6.0
JUNE	54	184	91	38	.42	3.5
JULY	30	93	43	14	.32	1.7
AUGUST	19	62	29	9.4	.32	1.1
SEPTEMBER	18	71	31	14	.46	1.2
ANNUAL	92	318	214	59	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1953-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	13	--	--
3	18	15	14	13	--	--
7	18	15	14	13	--	--
14	19	16	15	14	--	--
30	21	18	16	15	--	--
60	25	20	18	17	--	--
90	28	23	20	19	--	--
120	33	27	24	22	--	--
183	59	45	39	35	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1952-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1960	2940	4430	5500	6940	--	--
WEIGHTED SKEW = .151						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1952-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2080	2890	3340	3840	--	--
3	1650	2230	2520	2820	--	--
7	1230	1560	1710	1850	--	--
15	849	1100	1230	1370	--	--
30	686	880	983	1090	--	--
60	538	692	777	868	--	--
90	476	609	684	769	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1952-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
768	506	390	322	271	229	168	116	74	48	39	32	27	23	20

## WILLAMETTE RIVER BASIN

14165000 MOHAWK RIVER NEAR SPRINGFIELD, OR

LOCATION.--Lat 44°05'34", long 122°57'20", in SE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1935 to September 1952, October 1963 to September 1982. Prior to October 1935 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 442.47 ft 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 above station.

AVERAGE DISCHARGE.--36 years, 535 ft<sup>3</sup>/s, 41.05 in/yr, 387,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 22.60 ft; minimum, 8.2 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	27	719	127	165	1.30	2.0
NOVEMBER	27	1653	597	462	.77	9.3
DECEMBER	53	3197	1179	743	.63	18.3
JANUARY	84	2464	1304	671	.51	20.2
FEBRUARY	126	2016	1106	454	.41	17.2
MARCH	281	1975	885	408	.46	13.7
APRIL	242	1545	581	277	.48	9.0
MAY	118	710	334	138	.41	5.2
JUNE	54	581	183	104	.57	2.8
JULY	34	186	72	34	.48	1.1
AUGUST	15	91	37	18	.47	.6
SEPTEMBER	19	112	42	23	.54	.6
ANNUAL	164	847	535	157	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	15	12	11	9.0	--
3	21	15	13	11	9.7	--
7	22	16	14	12	10	--
14	23	17	15	13	11	--
30	26	19	17	15	13	--
60	32	24	20	18	15	--
90	38	28	24	21	19	--
120	47	35	30	27	24	--
183	98	69	58	50	42	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4100	6020	8620	10300	12400	13900	--
WEIGHTED SKEW = -.238						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5360	7640	8850	10100	10800	--
3	4380	6200	7180	8180	8790	--
7	3390	4610	5250	5910	6320	--
15	2510	3290	3680	4070	4290	--
30	1950	2440	2650	2840	2930	--
60	1520	1940	2140	2330	2440	--
90	1350	1720	1910	2080	2190	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2030	1410	1060	825	672	563	383	247	143	79	60	46	37	30	24

## WILLAMETTE RIVER BASIN

67

## 14165500 MCKENZIE RIVER NEAR COBURG, OR

LOCATION.--Lat 44°06'45", long 123°02'45", in NW¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1944 to September 1972.

GAGE.--Water-stage recorder. Datum of gage is 392.32 ft 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 above station.

AVERAGE DISCHARGE.--28 years, 5,916 ft<sup>3</sup>/s, 60.09 in/yr, 4,286,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft<sup>3</sup>/s Dec. 29, 1945, gage height, 21.36 ft, from rating curve extended above 59,000 ft<sup>3</sup>/s; minimum, 1,080 ft<sup>3</sup>/s Aug. 19, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 22.2 ft was reached in December 1861, 21.8 ft in February 1890, and 20.1 ft in January 1943 (information from Corps of Engineers), all at present datum.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1945-63

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1417	6684	3110	1503	.48	4.3
NOVEMBER	1933	12180	6309	2945	.47	8.7
DECEMBER	2061	20700	9198	4566	.50	12.7
JANUARY	3308	18020	8763	4058	.46	12.1
FEBRUARY	5607	17200	10210	3135	.31	14.1
MARCH	5565	13290	8296	2166	.26	11.4
APRIL	5787	9913	7862	1221	.16	10.8
MAY	3599	10130	7053	1665	.24	9.7
JUNE	3204	7377	4725	1332	.28	6.5
JULY	2041	3773	2811	512	.18	3.9
AUGUST	1657	2682	2146	280	.13	3.0
SEPTEMBER	1605	2440	2022	221	.11	2.8
ANNUAL	4575	8275	6018	836	.14	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1946-63

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1780	1610	1530	1470	--	--
3	1820	1640	1560	1490	--	--
7	1840	1660	1570	1500	--	--
14	1870	1690	1600	1530	--	--
30	1930	1740	1640	1570	--	--
60	2010	1810	1720	1640	--	--
90	2120	1900	1790	1710	--	--
120	2310	2040	1920	1820	--	--
183	3070	2700	2550	2450	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1945-63

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
36500	50500	69000	80900	95600	--	--
WEIGHTED SKEW = -.121						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1945-63

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	42000	56900	66200	77200	--	--
3	33100	43900	51000	59900	--	--
7	23800	30100	34000	38700	--	--
15	17600	21900	24400	27300	--	--
30	14100	17500	19700	22500	--	--
60	11400	13800	15400	17500	--	--
90	10600	12400	13500	15000	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1945-63

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
14900	11200	9570	8510	7650	6940	5780	4780	3650	2760	2480	2280	2100	1950	1790

## WILLAMETTE RIVER BASIN

14166000 WILLAMETTE RIVER AT HARRISBURG, OR

LOCATION.--Lat 44°16'14", long 123°10'21", in NW¼ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1944 to September 1982. 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 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 above station. Many small diversions above station for irrigation.

AVERAGE DISCHARGE.--38 years, 12,250 ft<sup>3</sup>/s, 8,875,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft<sup>3</sup>/s Dec. 29, 1945, gage height, 19.69 ft, from rating curve extended above 115,000 ft<sup>3</sup>/s; minimum, 1,990 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	6978	9745	8116	948	.12	5.6
NOVEMBER	6584	28860	14180	7049	.50	9.7
DECEMBER	3848	42980	24930	10750	.43	17.1
JANUARY	3695	36750	23710	10160	.43	16.3
FEBRUARY	2859	26010	15260	7330	.48	10.5
MARCH	5897	36070	13850	8313	.60	9.5
APRIL	4823	17520	10950	4021	.37	7.5
MAY	4207	12850	9430	2884	.31	6.5
JUNE	3809	12540	7493	2718	.36	5.1
JULY	3883	6283	5051	774	.15	3.5
AUGUST	4533	7117	5534	769	.14	3.8
SEPTEMBER	5020	8986	7131	1176	.16	4.9
ANNUAL	5233	17800	12130	3512	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4250	3530	3080	2700	--	--
3	4360	3600	3130	2730	--	--
7	4480	3670	3190	2780	--	--
14	4570	3740	3270	2880	--	--
30	4680	3890	3450	3080	--	--
60	4890	4110	3730	3430	--	--
90	5220	4360	3940	3610	--	--
120	5630	4760	4340	4020	--	--
183	6510	5540	5080	4720	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	56900	68600	71100	72200	--	--
3	50700	60900	63100	64000	--	--
7	46500	55100	56700	57400	--	--
15	40600	48900	50700	51500	--	--
30	34100	41500	43400	44300	--	--
60	27600	35100	37800	39600	--	--
90	24200	31100	33500	35200	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
36500	27900	20600	16200	13500	11800	9530	8180	7170	6240	5790	5430	5100	4750	4290

## WILLAMETTE RIVER BASIN

69

14166500 LONG TOM RIVER NEAR NOTI, OR

LOCATION.--Lat 44°03'00", long 123°25'30", in 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1935 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 389.05 ft 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 above Noti. No diversion above station.

AVERAGE DISCHARGE.--47 years, 234 ft<sup>3</sup>/s, 35.58 in/yr, 169,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,990 ft<sup>3</sup>/s Dec. 22, 1955, gage height, 20.17 ft; minimum, 0.04 ft<sup>3</sup>/s Aug. 13, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	300	42	50	1.17	1.5
NOVEMBER	17	708	200	172	.86	7.1
DECEMBER	24	1425	472	337	.71	16.8
JANUARY	25	1260	603	352	.58	21.5
FEBRUARY	63	1093	552	241	.44	19.7
MARCH	137	923	424	197	.46	15.1
APRIL	57	684	260	136	.52	9.3
MAY	55	340	127	53	.42	4.5
JUNE	25	164	64	23	.37	2.3
JULY	6.2	65	30	10	.35	1.1
AUGUST	3.6	33	17	6.5	.38	.6
SEPTEMBER	7.4	31	18	5.7	.32	.6
ANNUAL	46	424	233	78	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	15	9.6	6.5	4.3	2.5	1.6
60	16	11	8.8	7.0	5.3	4.3
90	18	13	11	9.0	7.3	6.3
120	21	16	13	11	9.4	8.2
183	38	28	24	21	18	16

NOTE: LOW-FLOW STATISTICS UNCERTAIN DUE TO EXCESSIVE SKEW.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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 3120 4690 5700 6940 7830 8690

WEIGHTED SKEW = -.359

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
----------	----------	-----------	----------	----------	-----------

1	2830	4140	4900	5730	6270	6740
3	2270	3280	3860	4500	4910	5280
7	1640	2330	2720	3150	3440	3690
15	1180	1610	1840	2090	2240	2370
30	900	1180	1320	1460	1540	1610
60	701	916	1020	1120	1170	1220
90	620	814	904	987	1030	1070

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
922	611	442	349	281	226	148	92	55	33	26	22	18	15	12



## WILLAMETTE RIVER BASIN

14167000 COYOTE CREEK NEAR CROW, OR

LOCATION.--Lat 44°01'19", long 123°15'17", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1940 to September 1982.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 374.0 ft 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 above station.

AVERAGE DISCHARGE.--42 years, 178 ft<sup>3</sup>/s, 25.42 in/yr, 129,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft<sup>3</sup>/s Feb. 10, 1961, gage height, 14.43 ft, from rating curve extended above 4,700 ft<sup>3</sup>/s; no flow at times most years.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	378	21	66	3.20	1.0
NOVEMBER	2.5	881	155	175	1.13	7.2
DECEMBER	3.1	1926	474	392	.83	22.1
JANUARY	4.0	1067	534	331	.62	24.9
FEBRUARY	12	1171	418	242	.58	19.5
MARCH	68	683	305	175	.57	14.2
APRIL	19	536	154	114	.74	7.2
MAY	14	301	61	55	.90	2.9
JUNE	3.2	61	16	10	.61	.8
JULY	.1	11	3.6	2.7	.73	.2
AUGUST	0.0	4.6	.9	1.1	1.29	0.0
SEPTEMBER	0.0	5.3	1.1	1.2	1.08	.1
ANNUAL	16	361	178	67	.38	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.9	.3	.1	.1	0.0	0.0
120	1.7	.7	.4	.3	.2	.1
183	7.7	4.2	3.0	2.3	1.7	1.3

NOTE: SHORT-DURATION STATISTICS UNCERTAIN DUE TO EXCESSIVE ZERO EVENTS.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2000	4080	7650	10300	13800	16500	19200
WEIGHTED SKEW = -.443						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3390	5600	6860	8190	9000	9680
3	2580	4040	4820	5600	6060	6430
7	1760	2660	3140	3620	3910	4150
15	1180	1710	1980	2240	2390	2510
30	855	1170	1310	1420	1480	1520
60	669	876	944	989	1010	1020
90	566	735	790	824	836	843

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
859	499	320	227	169	125	69	32	13	4.4	2.7	1.6	.7	.2	0.0

WILLAMETTE RIVER BASIN  
14169300 AMAZON CREEK AT EUGENE, OR

71

LOCATION.--Lat 44°00'45", long 123°04'35", in SW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1962 to September 1975.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 442.33 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--13 years, 5.24 ft<sup>3</sup>/s, 21.24 in/yr, 3,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 527 ft<sup>3</sup>/s Jan. 19, 1964, gage height, 7.29 ft; no flow at times.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1963-75

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.1	2.2	.7	.6	.84	1.1
NOVEMBER	1.1	23	5.8	5.8	1.00	9.2
DECEMBER	4.5	33	14	7.9	.57	22.1
JANUARY	2.3	27	18	7.7	.43	28.2
FEBRUARY	2.6	21	8.4	5.5	.65	13.3
MARCH	1.2	18	8.8	5.4	.61	14.0
APRIL	.8	12	4.3	3.5	.83	6.8
MAY	.3	8.7	1.9	2.3	1.21	3.0
JUNE	.2	1.2	.5	.3	.60	.8
JULY	.1	.6	.3	.1	.41	.5
AUGUST	.1	.9	.4	.3	.72	.6
SEPTEMBER	.2	.8	.3	.2	.62	.5
ANNUAL	2.3	8.8	5.2	1.7	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1964-75

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.1	0.0	0.0	0.0	--	--
3	.1	0.0	0.0	0.0	--	--
7	.1	0.0	0.0	0.0	--	--
14	.1	0.0	0.0	0.0	--	--
30	.2	.1	0.0	0.0	--	--
60	.2	.1	.1	.1	--	--
90	.2	.2	.1	.1	--	--
120	.3	.2	.1	.1	--	--
183	.4	.3	.2	.2	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1963-75

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
198	270	370	437	521	--	--
WEIGHTED SKEW = .011						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1963-75

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	126	192	228	267	--	--
3	86	130	154	181	--	--
7	58	83	96	110	--	--
15	35	50	59	69	--	--
30	23	31	36	41	--	--
60	18	23	26	28	--	--
90	15	20	22	23	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1963-75

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
25	14	8.4	5.7	4.2	3.2	1.8	.9	.4	.3	.3	.2	.2	.1	.1

## WILLAMETTE RIVER BASIN

## 14170000 LONG TOM RIVER AT MONROE, OR

LOCATION.--Lat 44°18'50", long 123°17'45", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1920 to July 1921, October 1921 to April 1926, November 1926 to May 1927, October 1927 to September 1982. Prior to October 1930, published as "near Monroe."

GAGE.--Water-stage recorder and concrete control. Datum of gage is 270.57 ft 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. Several small diversions above station.

AVERAGE DISCHARGE.--59 years (water years 1922-25, 1928-82), 772 ft<sup>3</sup>/s, 559,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft<sup>3</sup>/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 observed prior to regulation, 7 ft<sup>3</sup>/s Sept. 29, Oct. 1, 1939.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF FERN RIDGE DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1922-40

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	16	150	41	31	.77	.5
NOVEMBER	20	4265	666	1094	1.64	7.9
DECEMBER	76	2720	1240	804	.65	14.7
JANUARY	485	4656	1921	1266	.66	22.8
FEBRUARY	535	4401	2087	1264	.61	24.8
MARCH	359	3243	1204	731	.61	14.3
APRIL	165	2326	797	622	.78	9.5
MAY	90	535	240	116	.48	2.9
JUNE	56	444	123	94	.76	1.5
JULY	23	127	51	24	.48	.6
AUGUST	12	45	24	8.7	.36	.3
SEPTEMBER	12	40	21	7.1	.34	.2
ANNUAL	308	1228	703	260	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1923-40

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	9.6	8.3	7.4	--	--
3	14	10	8.8	7.8	--	--
7	15	11	9.6	8.5	--	--
14	16	12	10	9.2	--	--
30	17	13	12	10	--	--
60	19	15	13	12	--	--
90	21	16	15	13	--	--
120	25	19	17	16	--	--
183	48	36	32	29	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1922-40

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .094						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1922-40

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7500	11000	13600	17100	--	--
3	6680	9570	11700	14500	--	--
7	5450	7260	8420	9850	--	--
15	4240	5590	6420	7390	--	--
30	3070	4020	4560	5150	--	--
60	2300	3020	3440	3910	--	--
90	1940	2570	2930	3350	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1922-40

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3360	2130	1470	1060	776	567	300	156	82	45	34	27	23	19	15



## WILLAMETTE RIVER BASIN

14170500 ROCK CREEK NEAR PHILOMATH, OR

LOCATION.--Lat 44°30'05", long 123°26'20", in SW¼NE¼ 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 mi<sup>2</sup>.

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 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 ft<sup>3</sup>/s, 47.62 in/yr, 37,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,190 ft<sup>3</sup>/s Dec. 21, 1955, gage height, 6.82 ft, at site and datum then in use, from rating curve extended above 810 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; maximum gage height, 13.17 ft Dec. 15, 1977; minimum discharge, 0.2 ft<sup>3</sup>/s Aug 24, 1946, for several days in summers of 1949 and 1950, Sept. 1-3, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 24, 1964, reached a stage of 7.30 ft, discharge, 2,500 ft<sup>3</sup>/s, at site 0.2 mi downstream.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1946-79

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.9	80	17	24	1.40	2.8
NOVEMBER	3.7	148	62	44	.71	10.1
DECEMBER	4.1	187	107	57	.53	17.3
JANUARY	3.1	215	114	66	.58	18.4
FEBRUARY	15	256	137	61	.44	22.1
MARCH	28	154	89	31	.34	14.4
APRIL	18	85	46	18	.39	7.4
MAY	12	57	27	14	.52	4.4
JUNE	6.7	18	10	3.5	.34	1.7
JULY	2.5	6.5	4.1	1.3	.33	.7
AUGUST	.6	5.9	2.1	1.6	.77	.3
SEPTEMBER	.5	6.3	2.3	1.9	.83	.4
ANNUAL	14	72	51	16	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-79

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.7	.3	.2	.1	--	--
3	.7	.3	.2	.2	--	--
7	.8	.4	.3	.2	--	--
14	.8	.4	.3	.2	--	--
30	1.0	.5	.4	.3	--	--
60	1.4	.8	.6	.5	--	--
90	2.0	1.3	1.1	.9	--	--
120	3.1	2.3	1.9	1.6	--	--
183	7.7	5.3	4.2	3.3	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1946-79

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--	--
WEIGHTED SKEW = .273						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-79

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	609	772	860	--	--	--
3	460	587	659	--	--	--
7	326	420	480	--	--	--
15	248	309	343	--	--	--
30	192	227	241	--	--	--
60	153	183	193	--	--	--
90	142	174	184	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-79

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
206	139	105	83	67	54	33	18	9.4	4.9	3.6	2.9	2.2	1.4	.7

## 14171000 MARYS RIVER NEAR PHILOMATH, OR

LOCATION.--Lat 44°31'35", long 123°20'00", in NE¼SE¼ 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 mi<sup>2</sup>, including drainage area of Evergreen Creek above Bellfountain Road, 1.4 mi south of station.

PERIOD OF RECORD.--October 1940 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 224.01 ft 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. Slight regulation by small storage reservoir on Rock Creek from which municipal supply is diverted for city of Corvallis. Other small diversions above station for irrigation.

AVERAGE DISCHARGE.--42 years, 458 ft<sup>3</sup>/s, 39.12 in/yr, 331,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 20.72 ft; maximum gage height, 20.91 ft Jan. 15, 1974; minimum discharge, 0.60 ft<sup>3</sup>/s Aug. 23, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.2	568	73	102	1.39	1.3
NOVEMBER	22	1897	455	398	.87	8.2
DECEMBER	30	2360	1059	622	.59	19.2
JANUARY	38	2455	1239	690	.56	22.4
FEBRUARY	83	2398	1066	486	.46	19.3
MARCH	190	1736	793	381	.48	14.4
APRIL	160	1133	462	242	.52	8.4
MAY	91	660	219	122	.56	4.0
JUNE	43	185	88	31	.35	1.6
JULY	16	59	34	11	.32	.6
AUGUST	4.9	36	17	7.2	.42	.3
SEPTEMBER	6.0	52	19	10	.53	.4
ANNUAL	104	816	458	143	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.5	5.7	4.1	3.0	2.0	1.5
3	9.8	6.1	4.6	3.5	2.5	2.0
7	10	6.7	5.2	4.1	3.1	2.5
14	11	7.3	5.8	4.7	3.6	3.0
30	12	8.5	6.9	5.8	4.7	4.1
60	15	10	8.7	7.4	6.2	5.5
90	18	13	11	9.7	8.2	7.4
120	24	18	15	13	11	9.5
183	54	38	32	27	23	20

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4080	6140	8920	10700	12900	14400	15900
WEIGHTED SKEW = -.312						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5230	7300	8480	9790	10600	11400
3	4400	6060	7010	8060	8750	9360
7	3270	4410	5040	5730	6170	6570
15	2360	3130	3550	3990	4260	4490
30	1810	2320	2550	2750	2860	2950
60	1420	1840	2040	2240	2350	2440
90	1260	1640	1810	1970	2060	2130

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1910	1290	916	695	547	432	266	157	81	42	31	24	19	15	11

## WILLAMETTE RIVER BASIN

## 14172000 CALAPOOIA RIVER AT HOLLEY, OR

LOCATION.--Lat 44°21'05", long 122°47'10", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1935 to September 1982. Prior to October 1963, published as "Calapooya River at Holley".

GAGE.--Water-stage recorder. Datum of gage is 527.58 ft 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 above station.

AVERAGE DISCHARGE.--47 years, 440 ft<sup>3</sup>/s, 56.91 in/yr, 318,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 8, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	22	697	144	153	1.06	2.7
NOVEMBER	19	1417	544	368	.68	10.3
DECEMBER	60	2408	905	538	.59	17.1
JANUARY	78	1934	895	481	.54	16.9
FEBRUARY	102	1895	831	350	.42	15.7
MARCH	190	1363	711	295	.41	13.4
APRIL	194	1276	565	213	.38	10.7
MAY	121	727	361	156	.43	6.8
JUNE	66	534	184	93	.50	3.5
JULY	35	153	73	27	.37	1.4
AUGUST	21	106	42	14	.34	.8
SEPTEMBER	22	133	47	27	.57	.9
ANNUAL	189	671	440	107	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	21	18	17	15	14
3	25	21	19	18	17	16
7	26	22	20	19	17	17
14	27	23	21	19	18	17
30	30	25	22	21	19	18
60	36	28	25	23	20	19
90	42	32	28	25	23	21
120	53	39	33	30	26	23
183	110	80	67	58	49	44

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3790	5620	8200	9910	12100	13700	15200
WEIGHTED SKEW = -.169						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4500	6520	7850	9530	10800	12000
3	3550	5010	5930	7040	7820	8580
7	2580	3490	4030	4640	5050	5430
15	1860	2410	2720	3060	3280	3470
30	1450	1830	2020	2210	2320	2420
60	1140	1440	1610	1780	1900	2000
90	1010	1260	1400	1560	1670	1760

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1540	1070	825	676	564	480	350	241	147	84	63	49	40	33	27

## 14173500 CALAPOOIA RIVER AT ALBANY, OR

LOCATION.--Lat 44°37'15", long 123°07'40", in NW¼ 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 mi<sup>2</sup>.

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 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 flour mills near Shedd. Diversions for irrigation above station.

AVERAGE DISCHARGE.--41 years, 895 ft<sup>3</sup>/s, 32.67 in/yr, 648,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 32,700 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 7, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	1293	201	282	1.40	1.9
NOVEMBER	34	3408	1042	830	.80	9.7
DECEMBER	69	5688	2123	1337	.63	19.7
JANUARY	102	4214	2276	1233	.54	21.1
FEBRUARY	108	4872	1845	917	.50	17.1
MARCH	358	3020	1447	730	.50	13.4
APRIL	280	2137	914	438	.48	8.5
MAY	174	1598	537	299	.56	5.0
JUNE	84	586	228	107	.47	2.1
JULY	38	227	84	38	.45	.8
AUGUST	16	103	40	17	.42	.4
SEPTEMBER	18	157	49	33	.68	.5
ANNUAL	244	1512	896	263	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	8.6	6.6	5.2	3.9	3.1
3	19	14	11	9.1	7.2	6.0
7	23	17	14	12	10	9.1
14	24	18	16	14	12	10
30	28	21	18	15	13	11
60	35	26	22	19	17	15
90	42	30	26	23	20	19
120	56	41	34	30	26	24
183	133	94	78	66	55	49

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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
WEIGHTED SKEW = -.278						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11300	17200	20900	25200	28100	30900
3	9350	13400	15700	18100	19600	20900
7	6770	9340	10700	12200	13100	13800
15	4710	6240	7010	7760	8200	8570
30	3570	4510	4910	5250	5420	5550
60	2740	3550	3940	4300	4510	4670
90	2370	3050	3380	3690	3870	4010

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3800	2380	1700	1270	1000	808	552	347	195	101	74	55	41	32	24



## WILLAMETTE RIVER BASIN

## 14174000 WILLAMETTE RIVER AT ALBANY, OR

LOCATION.--Lat 44°38'20", long 123°06'20", in SW¼ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--November 1878 to April 1888 (fragmentary), January to June 1892, November 1892 to September 1894, December 1894 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 167.18 ft 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 above 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.--88 years (water years 1894, 1896-82), 14,470 ft<sup>3</sup>/s, 40.60 in/yr, 10,480,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 266,000 ft<sup>3</sup>/s Jan. 14, 1881, gage height, 37.8 ft, present datum; minimum, 1,840 ft<sup>3</sup>/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 ft<sup>3</sup>/s, from rating curve extended above 220,000 ft<sup>3</sup>/s. Flood of Feb. 4, 1890, reached a stage of 38.9 ft, discharge, 291,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF NINE RESERVOIRS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1894-41

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2313	16410	4419	2671	.60	2.7
NOVEMBER	2242	42920	13500	9776	.72	8.2
DECEMBER	4999	40990	20790	9531	.46	12.6
JANUARY	6613	54370	27190	12430	.46	16.5
FEBRUARY	8541	50050	25020	11330	.45	15.2
MARCH	6855	51030	21700	9764	.45	13.1
APRIL	7067	38020	18000	7122	.40	10.9
MAY	5971	28950	13110	4713	.36	7.9
JUNE	3316	22680	9581	4349	.45	5.8
JULY	2497	10780	5205	2019	.39	3.2
AUGUST	2034	5771	3312	776	.23	2.0
SEPTEMBER	2153	6604	3308	898	.27	2.0
ANNUAL	7983	18870	13530	3128	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1896-41

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2590	2260	2110	1990	1870	1790
3	2610	2270	2120	2000	1880	1810
7	2630	2290	2140	2020	1900	1820
14	2670	2330	2180	2080	1970	1910
30	2780	2430	2270	2160	2040	1970
60	2940	2540	2370	2260	2140	2070
90	3170	2690	2480	2330	2180	2090
120	3450	2860	2620	2450	2290	2190
183	5070	3950	3490	3160	2830	2640

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1896-41

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
70800	104000	153000	187000	234000	270000	307000
WEIGHTED SKEW = .059						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1896-41

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	98300	143000	174000	215000	246000	278000
3	87100	123000	146000	175000	197000	217000
7	68700	92000	106000	122000	133000	143000
15	51400	66200	74500	83800	89900	95500
30	39400	49000	54000	59400	62800	65700
60	31400	38600	42600	46800	49500	52000
90	27500	33600	36800	40300	42500	44400

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1896-41

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
40200	28800	23500	19800	17300	15200	12000	9250	6630	4490	3870	3510	3190	2890	2540

## WILLAMETTE RIVER BASIN

79

14174000 WILLAMETTE RIVER AT ALBANY, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF NINE RESERVOIRS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7454	11430	9144	1191	.13	5.1
NOVEMBER	7131	39540	16600	9035	.54	9.2
DECEMBER	4150	55390	32600	14980	.46	18.1
JANUARY	3901	45070	31320	13550	.43	17.4
FEBRUARY	3208	34190	20810	9616	.46	11.6
MARCH	6807	43270	18100	10470	.58	10.1
APRIL	5630	23520	13960	5671	.41	7.8
MAY	4733	14810	10610	3174	.30	5.9
JUNE	4281	13360	8168	2878	.35	4.5
JULY	4084	7333	5385	963	.18	3.0
AUGUST	4778	7313	5672	747	.13	3.2
SEPTEMBER	5245	8985	7272	1107	.15	4.0
ANNUAL	5831	22550	14960	4656	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4580	3800	3340	2940	--	--
3	4680	3880	3390	2980	--	--
7	4770	3940	3460	3050	--	--
14	4860	4030	3560	3160	--	--
30	4950	4170	3730	3350	--	--
60	5160	4380	3990	3690	--	--
90	5520	4640	4210	3870	--	--
120	6030	5130	4700	4380	--	--
183	7100	6050	5550	5170	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- UTIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	74800	94800	101000	105000	--	--
3	70900	88100	92800	95400	--	--
7	63700	75700	78200	79200	--	--
15	54100	64900	67200	68100	--	--
30	45100	53900	55700	56500	--	--
60	36300	46500	49800	51900	--	--
90	31400	41100	44600	47100	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
48200	36400	27000	20800	16700	14100	11200	9260	8050	6920	6390	5900	5450	5070	4460

## WILLAMETTE RIVER BASIN

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

LOCATION.--Lat 44°42'25", long 122°06'00", in SE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1907 to October 1909, October 1928 to September 1982. Monthly discharge only January 1907, published in WSP 1318. Prior to October 1952, published as "at Detroit."

GAGE.--Water-stage recorder. Datum of gage is 1,590.07 ft National Geodetic Vertical Datum of 1929. See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--56 years, 1,005 ft<sup>3</sup>/s, 63.18 in/yr, 728,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 13.76 ft, temporary backwater from debris, from rating curve extended above 6,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 250 ft<sup>3</sup>/s Sept. 13, 1909.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1908-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	312	1215	515	184	.36	4.3
NOVEMBER	336	2167	956	465	.49	7.9
DECEMBER	432	3840	1408	734	.52	11.6
JANUARY	383	2991	1306	602	.46	10.8
FEBRUARY	404	2816	1257	542	.43	10.4
MARCH	616	2865	1143	396	.35	9.5
APRIL	610	2137	1338	350	.26	11.1
MAY	701	2762	1468	474	.32	12.1
JUNE	441	2759	1139	503	.44	9.4
JULY	375	1101	640	178	.28	5.3
AUGUST	326	663	477	84	.18	3.9
SEPTEMBER	309	595	441	68	.15	3.6
ANNUAL	569	1506	1006	203	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1909-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	381	338	319	304	288	279
3	383	339	320	304	289	279
7	386	342	322	306	290	280
14	393	348	327	310	294	283
30	405	357	335	319	301	290
60	422	371	348	330	311	300
90	442	385	359	339	319	306
120	470	405	377	356	336	323
183	599	491	446	414	383	364

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1908-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4970	7580	11700	14600	18700	22000	25400
WEIGHTED SKEW = .062						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1908-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6100	9060	11000	13500	15300	17000
3	4860	7130	8680	10700	12200	13700
7	3710	5110	5990	7040	7780	8500
15	2820	3630	4100	4630	4980	5300
30	2260	2800	3090	3400	3600	3780
60	1870	2250	2460	2670	2810	2930
90	1680	1990	2140	2300	2400	2480

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1908-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2320	1820	1580	1390	1240	1120	939	784	654	547	509	473	440	406	369

## WILLAMETTE RIVER BASIN

81

## 14179000 BREITENBUSH RIVER ABOVE CANYON CREEK, NEAR DETROIT, OR

LOCATION.--Lat 44°45'10", long 122°07'40", in SE¼NE¼ 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.--106 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1932 to September 1982. Monthly discharge only June 1932, published in WSP 1318. Prior to October 1952, published as "above French Creek, near Detroit."

GAGE.--Water-stage recorder. Datum of gage is 1,573.95 ft 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 above station.

AVERAGE DISCHARGE.--50 years, 577 ft<sup>3</sup>/s, 73.92 in/yr, 418,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 14.55 ft; minimum, 87 ft<sup>3</sup>/s Sept. 2, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1933-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	104	827	261	164	.63	3.8
NOVEMBER	106	1504	648	374	.58	9.3
DECEMBER	163	2385	942	519	.55	13.6
JANUARY	142	2135	848	460	.54	12.2
FEBRUARY	176	1867	788	393	.50	11.4
MARCH	289	1874	666	263	.39	9.6
APRIL	295	1280	790	252	.32	11.4
MAY	344	1627	800	282	.35	11.5
JUNE	202	1565	581	279	.48	8.4
JULY	129	532	286	107	.37	4.1
AUGUST	98	264	172	42	.25	2.5
SEPTEMBER	104	267	158	38	.24	2.3
ANNUAL	276	892	577	129	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1934-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	119	104	97	92	87	84
3	120	105	98	93	87	84
7	122	106	99	94	88	85
14	126	109	102	96	90	87
30	132	114	106	100	94	91
60	143	122	113	106	99	95
90	159	132	120	111	103	98
120	184	146	131	120	109	102
183	279	214	187	167	148	137

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1933-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4450	6320	9040	10900	13400	15400	17300
WEIGHTED SKEW = .072						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1933-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4980	7020	8230	9610	10500	11400
3	3690	5240	6240	7450	8320	9170
7	2660	3650	4240	4930	5400	5840
15	1940	2550	2880	3240	3480	3680
30	1510	1930	2150	2380	2530	2660
60	1200	1490	1640	1790	1890	1980
90	1080	1310	1420	1530	1600	1660

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1933-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1560	1160	956	822	725	644	512	408	322	241	205	177	155	138	122

## WILLAMETTE RIVER BASIN

## 14181500 NORTH SANTIAM RIVER AT NIAGARA, OR

LOCATION.--Lat 44°45'10", long 122°17'50", in NE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1908 to January 1920, October 1921 to March 1922, October 1938 to September 1982. 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.

GAGE.--Water-stage recorder. Datum of gage is 1,093.78 ft National Geodetic Vertical Datum of 1929 (Bureau of Public Roads bench mark). See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--Flow regulated since 1953 by Detroit Lake and Big Cliff Reservoir, usable capacity for reregulating purposes, 2,930 acre-ft. No diversion above station.

AVERAGE DISCHARGE.--54 years (water years 1910-19, 1939-82), 2,335 ft<sup>3</sup>/s, 70.00 in/yr, 1,692,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63,200 ft<sup>3</sup>/s Nov. 22, 1909, gage height, 16.4 ft, from floodmark, site and datum then in use, from rating curve extended above 35,000 ft<sup>3</sup>/s; minimum, 19 ft<sup>3</sup>/s Aug. 21, 1963; minimum daily, 395 ft<sup>3</sup>/s Mar. 25, 26, 1977.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF DETROIT AND BIG CLIFF DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-52

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	491	2920	1153	717	.62	4.2
NOVEMBER	511	5225	2654	1331	.50	9.8
DECEMBER	955	9568	3238	2031	.63	11.9
JANUARY	1057	6577	2950	1424	.48	10.9
FEBRUARY	1455	6078	3186	1171	.37	11.7
MARCH	1225	5348	2657	925	.35	9.8
APRIL	1180	5257	3181	1056	.33	11.7
MAY	1394	5694	3127	1230	.39	11.5
JUNE	721	6101	2283	1238	.54	8.4
JULY	547	3177	1238	657	.53	4.6
AUGUST	461	1281	761	211	.28	2.8
SEPTEMBER	502	1278	737	219	.30	2.7
ANNUAL	1336	3458	2258	541	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1913-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	557	479	443	415	--	--
3	560	483	446	417	--	--
7	567	488	452	424	--	--
14	581	501	463	434	--	--
30	606	518	478	448	--	--
60	648	542	499	469	--	--
90	723	582	522	477	--	--
120	827	640	559	500	--	--
183	1210	905	772	676	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-52

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
12800	20500	32600	41400	53300	--	--
WEIGHTED SKEW = -.072						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14900	22900	28500	35800	--	--
3	11400	17500	21900	27900	--	--
7	8790	12600	15000	17900	--	--
15	6560	8990	10500	12200	--	--
30	5180	6850	7820	8920	--	--
60	4360	5620	6330	7100	--	--
90	3920	4910	5420	5960	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-52

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5830	4580	3770	3270	2890	2560	2070	1680	1360	1060	907	791	706	622	543

## WILLAMETTE RIVER BASIN

83

14181500 NORTH SANTIAM RIVER AT NIAGARA, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF DETROIT AND BIG CLIFF DAMS)

MONTHLY AND ANNUAL MEAN DISCHARGES 1954-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1837	3828	2517	540	.21	8.8
NOVEMBER	2200	6075	3665	1126	.31	12.8
DECEMBER	932	9208	4247	1964	.46	14.9
JANUARY	880	7888	3579	1697	.47	12.5
FEBRUARY	665	5843	2252	1433	.64	7.9
MARCH	508	6990	1737	1228	.71	6.1
APRIL	465	3692	1836	808	.44	6.4
MAY	651	4033	2460	993	.40	8.6
JUNE	681	4263	1944	895	.46	6.8
JULY	848	1868	1218	243	.20	4.3
AUGUST	837	1719	1225	232	.19	4.3
SEPTEMBER	1437	2394	1858	284	.15	6.5
ANNUAL	1206	3490	2379	498	.21	100

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	832	665	569	489	403	--
3	909	731	619	523	419	--
7	937	756	645	551	448	--
14	966	780	669	575	472	--
30	1010	805	688	590	484	--
60	1090	882	773	685	591	--
90	1240	995	874	778	676	--
120	1360	1080	944	838	727	--
183	1660	1350	1200	1080	954	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1954-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11700	13900	14600	15100	15200	--
3	11200	13200	13900	14300	14400	--
7	9690	11900	12800	13500	13800	--
15	7400	9540	10700	12000	12900	--
30	5670	7270	8190	9230	9930	--
60	4570	5800	6530	7390	7980	--
90	4120	5180	5780	6440	6870	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1954-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5820	4790	3800	3090	2850	2600	2140	1760	1390	1180	1100	1060	1020	973	900

## WILLAMETTE RIVER BASIN

14182500 LITTLE NORTH SANTIAM RIVER NEAR MEHAMA, OR

LOCATION.--Lat 44°47'30", long 122°34'40", in NW¼ 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 mi<sup>2</sup> at cableway 1.2 mi downstream where all discharge measurements are made.

PERIOD OF RECORD.--October 1931 to September 1982. Records for July to September 1924 and July to September 1931 at site 4 mi upstream not equivalent owing to difference in drainage areas.

GAGE.--Water-stage recorder. Datum of gage is 655.41 ft National Geodetic Vertical Datum of 1929. Prior to June 12, 1948, nonrecording gage at about same site and datum.

REMARKS.--No regulation or diversion above station. Records herein are for measuring site.

AVERAGE DISCHARGE.--51 years, 769 ft<sup>3</sup>/s, 93.24 in/yr, 557,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 16.73 ft, from rating curve extended above 17,000 ft<sup>3</sup>/s; minimum, 13 ft<sup>3</sup>/s Aug. 30, 1961.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1932-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	26	1594	417	369	.88	4.5
NOVEMBER	26	3121	1129	686	.61	12.2
DECEMBER	193	3680	1520	772	.51	16.4
JANUARY	218	3615	1366	727	.53	14.8
FEBRUARY	260	2581	1195	546	.46	12.9
MARCH	302	2645	1033	451	.44	11.2
APRIL	268	1712	993	303	.31	10.7
MAY	241	1439	825	303	.37	8.9
JUNE	80	1684	468	299	.64	5.1
JULY	45	344	130	68	.52	1.4
AUGUST	19	432	66	60	.90	.7
SEPTEMBER	29	490	115	119	1.03	1.2
ANNUAL	400	1146	769	165	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	23	20	19	17	16
3	29	23	21	19	18	17
7	30	24	22	20	19	18
14	32	25	23	21	20	19
30	37	28	25	23	21	20
60	49	35	30	27	24	22
90	67	45	37	32	27	25
120	104	66	52	43	34	30
183	256	179	148	125	104	92

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9550	13400	18800	22600	27400	31200	35000
WEIGHTED SKEW = .072						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1932-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8790	12000	14000	16400	18100	19800
3	6220	8330	9610	11100	12200	13200
7	4280	5580	6340	7210	7800	8350
15	2980	3830	4320	4900	5300	5670
30	2260	2920	3330	3820	4160	4480
60	1780	2270	2570	2920	3180	3420
90	1610	2000	2230	2500	2680	2860

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1932-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2530	1760	1370	1150	971	838	638	470	319	175	120	83	59	44	34

## 14183000 NORTH SANTIAM RIVER AT MEHAMA, OR

LOCATION.--Lat 44°47'20", long 122°37'00", in NW¼ 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 mi<sup>2</sup>, 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 September 1982. Monthly discharge only September 1921, published in WSP 1318. Prior to October 1913, published as North Fork of Santiam River at Mehama.

GAGE.--Water-stage recorder. Datum of gage is 602.49 ft 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 and Big Cliff Reservoir, usable capacity for reregulating purposes, 2,930 acre-ft. No diversion above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--66 years (water years 1906, 1911-14, 1922-82), 3,367 ft<sup>3</sup>/s, 2,439,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 15.37 ft, from rating curve extended above 36,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s Aug. 3, 1970; minimum daily, 420 ft<sup>3</sup>/s Sept. 18, 1924.

## STATISTICAL SUMMARIES (BEFORE CONSTRUCTION OF DETROIT AND BIG CLIFF DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-52

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	526	5040	1664	1143	.69	4.2
NOVEMBER	495	10330	4425	2784	.63	11.2
DECEMBER	1482	9999	4829	2049	.42	12.2
JANUARY	1029	11230	4873	2447	.50	12.3
FEBRUARY	1884	11410	4986	2456	.49	12.6
MARCH	1686	9465	4273	1458	.34	10.8
APRIL	1600	7559	4541	1449	.32	11.5
MAY	1750	7949	4208	1631	.39	10.6
JUNE	852	7802	2830	1479	.52	7.2
JULY	626	2259	1242	438	.35	3.1
AUGUST	507	1520	781	196	.25	2.0
SEPTEMBER	508	1910	861	352	.41	2.2
ANNUAL	2061	4325	3251	702	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-52

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	589	508	470	440	410	--
3	595	513	475	446	415	--
7	601	517	479	449	419	--
14	616	529	488	457	424	--
30	647	547	501	467	431	--
60	693	573	526	492	461	--
90	774	622	559	514	470	--
120	899	687	605	549	495	--
183	1450	1080	934	831	732	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-52

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
23900	34200	48700	58300	70600	79800	--
WEIGHTED SKEW = -.069						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-52

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27300	38400	45700	54900	61800	--
3	20100	28300	34000	41300	46800	--
7	15000	19900	22700	25800	27900	--
15	10900	14300	16400	18900	20700	--
30	8530	10700	11900	13200	14100	--
60	6770	8180	8920	9710	10200	--
90	6100	7170	7690	8200	8500	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-52

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
8990	6660	5540	4790	4250	3780	2990	2350	1780	1240	1020	872	757	668	576



## WILLAMETTE RIVER BASIN

14183000 NORTH SANTIAM RIVER AT MEHAMA, OR--Continued

## STATISTICAL SUMMARIES (AFTER COMPLETION OF DETROIT AND BIG CLIFF DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1954-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1949	5109	2960	897	.30	7.0
NOVEMBER	2502	9857	5218	1987	.38	12.4
DECEMBER	1183	14300	6717	3195	.48	15.9
JANUARY	1212	11430	5745	2630	.46	13.6
FEBRUARY	1048	9197	4057	2136	.53	9.6
MARCH	1579	10890	3280	1847	.56	7.8
APRIL	1624	5714	3287	1146	.35	7.8
MAY	1136	5897	3600	1248	.35	8.5
JUNE	1023	5521	2570	1186	.46	6.1
JULY	1032	2318	1412	309	.22	3.3
AUGUST	918	1833	1335	245	.18	3.2
SEPTEMBER	1485	2800	2001	339	.17	4.7
ANNUAL	1743	5255	3513	774	.22	100

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1050	934	872	821	765	--
3	1080	956	888	833	772	--
7	1110	979	906	847	780	--
14	1140	997	922	861	793	--
30	1170	1030	959	903	842	--
60	1260	1110	1050	994	940	--
90	1420	1230	1140	1070	1000	--
120	1600	1380	1280	1200	1120	--
183	2070	1750	1590	1480	1350	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1954-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16700	21000	22700	24100	24800	--
3	14400	16600	17200	17500	17600	--
7	12800	15100	15800	16200	16400	--
15	11100	13400	14300	14900	15100	--
30	8880	11200	12300	13300	13900	--
60	7160	9240	10300	11400	12100	--
90	6510	8300	9190	10100	10600	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1954-82

## DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9890	7160	5990	5010	4270	3740	2960	2430	2110	1810	1640	1500	1370	1240	1110

## 14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR

LOCATION.--44°23'35", long 122°30'35", in SE¼ 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 mi<sup>2</sup>, at gaging cable 0.7 mi upstream.

PERIOD OF RECORD.--September 1935 to September 1982. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 759.88 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1935, nonrecording gage.

REMARKS.--No regulation or diversion above station. All records given herein are for measuring site.

AVERAGE DISCHARGE.--47 years, 821 ft<sup>3</sup>/s, 64.08 in/yr, 594,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 19.68 ft, from rating curve extended above 14,000 ft<sup>3</sup>/s; minimum, 23 ft<sup>3</sup>/s Dec. 1, 2, 1936.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	34	1296	312	297	.95	3.2
NOVEMBER	28	2442	1062	683	.64	10.7
DECEMBER	82	4319	1568	932	.59	15.9
JANUARY	107	3278	1464	823	.56	14.8
FEBRUARY	130	3260	1371	625	.46	13.9
MARCH	324	2913	1150	483	.42	11.6
APRIL	356	2053	1133	342	.30	11.5
MAY	296	1639	951	365	.38	9.6
JUNE	104	1261	527	298	.57	5.3
JULY	54	407	170	79	.46	1.7
AUGUST	39	222	81	30	.37	.8
SEPTEMBER	45	318	100	68	.68	1.0
ANNUAL	359	1280	821	200	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	39	34	31	27	25
3	48	39	35	32	28	26
7	50	41	36	33	29	26
14	53	43	38	34	30	28
30	59	47	41	37	33	30
60	70	54	47	42	37	34
90	83	61	53	47	42	39
120	114	79	65	56	47	42
183	263	178	143	119	95	82

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
8020	11900	17300	21000	25700	29200	32800
WEIGHTED SKEW = -.117						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8940	12900	15400	18300	20400	22300
3	6530	9290	11000	13100	14600	16000
7	4610	6270	7240	8340	9070	9730
15	3190	4170	4720	5330	5720	6080
30	2460	3170	3580	4030	4320	4590
60	1920	2440	2760	3130	3390	3640
90	1740	2180	2430	2710	2900	3070

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2660	1840	1480	1260	1070	927	687	499	337	182	132	98	78	64	52

## WILLAMETTE RIVER BASIN

14185800 MIDDLE SANTIAM RIVER NEAR CASCADIA, OR

LOCATION.--Lat 44°30'55", long 122°22'15", in NE¼ 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 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,040 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--18 years, 630 ft<sup>3</sup>/s, 82.26 in/yr, 456,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 15.75 ft, from floodmark, from rating curve extended above 7,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 28 ft<sup>3</sup>/s Oct. 17, 26, 27, 1974.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	40	575	208	164	.79	2.8
NOVEMBER	167	1739	801	500	.62	10.6
DECEMBER	121	3356	1274	795	.62	16.8
JANUARY	169	2244	1260	599	.48	16.7
FEBRUARY	178	1851	883	435	.49	11.7
MARCH	354	2218	796	431	.54	10.5
APRIL	409	1273	807	272	.34	10.7
MAY	342	1296	781	310	.40	10.3
JUNE	152	986	426	260	.61	5.6
JULY	79	242	141	54	.39	1.9
AUGUST	46	166	84	31	.37	1.1
SEPTEMBER	43	218	102	63	.61	1.3
ANNUAL	286	976	630	176	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	36	33	30	--	--
3	45	37	33	30	--	--
7	46	38	34	31	--	--
14	50	40	36	33	--	--
30	56	45	40	36	--	--
60	67	52	46	42	--	--
90	80	61	53	48	--	--
120	99	75	65	58	--	--
183	198	148	127	113	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5710	7920	11500	14200	18000	--	--
WEIGHTED SKEW = .430						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6280	9360	11100	13000	--	--
3	4750	7070	8500	10200	--	--
7	3450	4870	5670	6540	--	--
15	2420	3240	3700	4190	--	--
30	1830	2470	2860	3320	--	--
60	1450	1930	2240	2630	--	--
90	1280	1670	1930	2260	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1970	1370	1120	945	807	701	534	406	272	157	122	96	76	63	51

## WILLAMETTE RIVER BASIN

89

## 14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR

LOCATION.--Lat 44°32'25", long 122°26'05", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1963 to November 1964 (destroyed by flood of December 1964); October 1965 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Altitude 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 above station.

AVERAGE DISCHARGE.--18 years (water years 1964, 1966-82), 676 ft<sup>3</sup>/s, 92.54 in/yr, 489,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft<sup>3</sup>/s Jan. 20, 1972, gage height, 16.38 ft; minimum, 14 ft<sup>3</sup>/s Aug. 19-23, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 36,500 ft<sup>3</sup>/s Dec. 22, 1964, from slope-area measurement of peak flow.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	30	753	268	233	.87	3.3
NOVEMBER	155	2224	971	611	.63	12.0
DECEMBER	110	2897	1426	780	.55	17.6
JANUARY	157	2450	1381	662	.48	17.0
FEBRUARY	208	2441	1079	597	.55	13.3
MARCH	329	2018	901	422	.47	11.1
APRIL	382	1245	840	251	.30	10.3
MAY	243	1114	660	247	.37	8.1
JUNE	97	711	327	205	.63	4.0
JULY	54	187	97	41	.42	1.2
AUGUST	26	240	65	49	.76	.8
SEPTEMBER	29	268	105	86	.82	1.3
ANNUAL	311	1113	676	197	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	20	18	16	--	--
3	27	21	18	16	--	--
7	28	21	18	16	--	--
14	30	22	19	17	--	--
30	34	26	23	21	--	--
60	46	33	29	26	--	--
90	61	42	35	31	--	--
120	85	56	46	39	--	--
183	190	131	107	90	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
8270	11500	16700	20700	26500	--	--
WEIGHTED SKEW = .501						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8220	11000	12500	14200	--	--
3	5990	7860	8850	9880	--	--
7	4350	5610	6230	6810	--	--
15	2890	3690	4100	4520	--	--
30	2130	2710	3020	3340	--	--
60	1670	2140	2430	2780	--	--
90	1480	1880	2140	2450	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2420	1570	1200	975	820	700	521	373	239	134	96	71	54	42	33

## WILLAMETTE RIVER BASIN

14186000 MIDDLE SANTIAM RIVER NEAR FOSTER, OR

LOCATION.--Lat 44°27'35", long 122°31'25", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1931 to September 1947.

GAGE.--Staff gage. Datum of gage is 733.44 ft 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 above station.

AVERAGE DISCHARGE.--16 years (water years 1932-47), 1,449 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft<sup>3</sup>/s Dec. 28, 1945, gage height, 21.6 ft, from rating curve extended above 24,000 ft<sup>3</sup>/s by logarithmic plotting; minimum, 54 ft<sup>3</sup>/s Dec. 1, 1936, gage height, 1.25 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1932-47

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	74	975	421	305	.72	2.4
NOVEMBER	65	5397	1988	1454	.73	11.4
DECEMBER	582	5741	2792	1650	.59	16.0
JANUARY	491	5351	2471	1196	.48	14.2
FEBRUARY	780	4041	2156	947	.44	12.4
MARCH	648	5998	2383	1168	.49	13.7
APRIL	547	4042	2140	909	.42	12.3
MAY	487	3059	1509	802	.53	8.7
JUNE	220	3530	984	830	.84	5.6
JULY	126	614	294	130	.44	1.7
AUGUST	80	199	134	38	.28	.8
SEPTEMBER	83	581	163	133	.82	.9
ANNUAL	913	2178	1449	352	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-47

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	77	65	60	56	--	--
3	78	66	61	57	--	--
7	80	67	62	58	--	--
14	84	69	63	59	--	--
30	92	76	69	65	--	--
60	107	85	76	70	--	--
90	124	97	88	83	--	--
120	174	121	102	89	--	--
183	420	282	230	194	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-47

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	40000	--	--
WEIGHTED SKEW = .108						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1932-47

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15500	22100	26800	33300	--	--
3	11200	16500	20400	25600	--	--
7	8110	11400	13500	15800	--	--
15	5760	7840	9110	10600	--	--
30	4470	5870	6630	7430	--	--
60	3580	4570	5110	5690	--	--
90	3160	3900	4290	4690	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1932-47

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4690	3350	2740	2280	1950	1640	1180	846	555	301	211	161	126	104	83

## 14186500 MIDDLE SANTIAM RIVER AT MOUTH, NEAR FOSTER, OR

LOCATION.--Lat 44°25'25", long 122°37'25", in NE¼SE¼ 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 mi<sup>2</sup>.

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 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 above station.

AVERAGE DISCHARGE.--16 years, 1,775 ft<sup>3</sup>/s, 1,285,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,800 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 25.80 ft, from rating curve extended above 34,000 ft<sup>3</sup>/s on the basis of slope-area measurement of peak flow; minimum, 66 ft<sup>3</sup>/s Sept. 10, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1951-66

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	85	2590	899	802	.89	4.2
NOVEMBER	126	4660	2524	1411	.56	11.8
DECEMBER	1066	9077	3493	2221	.64	16.3
JANUARY	758	7270	3189	1864	.58	14.9
FEBRUARY	1290	6405	3017	1368	.45	14.1
MARCH	1039	4015	2360	865	.37	11.0
APRIL	1520	3427	2473	559	.23	11.6
MAY	850	3017	1822	694	.38	8.5
JUNE	365	2162	907	516	.57	4.2
JULY	177	714	325	143	.44	1.5
AUGUST	106	235	168	42	.25	.8
SEPTEMBER	96	749	203	162	.80	.9
ANNUAL	1257	2445	1775	265	.15	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1952-66

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	101	84	77	72	--	--
3	102	85	78	73	--	--
7	105	87	79	74	--	--
14	110	90	82	77	--	--
30	124	100	90	83	--	--
60	155	121	105	94	--	--
90	178	138	122	111	--	--
120	232	171	149	135	--	--
183	549	394	332	289	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1951-66

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	27500	38900	46900	57500	--	--
WEIGHTED SKEW = .108						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1951-66

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20200	29500	36100	45100	--	--
3	14600	21000	26000	33300	--	--
7	9470	13300	16400	20900	--	--
15	6790	9000	10600	12700	--	--
30	5160	6970	8280	10100	--	--
60	4040	5290	6160	7300	--	--
90	3660	4620	5270	6130	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1951-66

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5540	3970	3150	2630	2220	1930	1470	1100	745	405	282	216	173	140	111

## WILLAMETTE RIVER BASIN

14187000 WILEY CREEK NEAR FOSTER, OR

LOCATION.--Lat 44°22'20", long 122°37'20", in NE1/4 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to July 1973.

GAGE.--Water-stage recorder. Datum of gage is 716.08 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Apr. 6, 1965, water-stage recorder at present site at datum 2.00 ft higher. Apr. 6 to Aug. 17, 1965, nonrecording gage at present site and datum.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--25 years (water years 1948-72), 224 ft<sup>3</sup>/s, 58.72 in/yr, 162,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,640 ft<sup>3</sup>/s Jan. 21, 1972, gage height, 9.28 ft, from rating curve extended above 3,700 ft<sup>3</sup>/s; maximum gage height, 11.80 ft, present datum, Dec. 21, 1964 (backwater from debris); minimum discharge, 5.6 ft<sup>3</sup>/s Nov. 26, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1948-72

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.7	397	103	97	.94	3.8
NOVEMBER	16	620	286	154	.54	10.6
DECEMBER	109	1107	431	250	.58	16.0
JANUARY	82	842	482	246	.51	17.8
FEBRUARY	195	944	416	177	.43	15.4
MARCH	116	625	354	134	.38	13.1
APRIL	133	490	273	87	.32	10.1
MAY	64	353	196	79	.40	7.3
JUNE	28	165	86	38	.45	3.2
JULY	17	76	35	18	.52	1.3
AUGUST	9.3	53	19	9.0	.48	.7
SEPTEMBER	9.5	68	22	14	.65	.8
ANNUAL	170	318	224	39	.17	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1949-72

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.8	7.9	7.0	6.5	5.9	--
3	10	8.1	7.2	6.6	6.0	--
7	10	8.5	7.6	7.0	6.4	--
14	11	9.0	8.1	7.4	6.7	--
30	13	10	9.0	8.2	7.5	--
60	16	12	11	9.6	8.6	--
90	19	14	12	11	10.0	--
120	26	19	16	14	12	--
183	60	43	35	30	24	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1948-72DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
-------------	----------	----------	-----------	----------	----------	-----------

2380 3550 5380 6740 8620 10100 --

WEIGHTED SKEW = .158

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1948-72DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- UTIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
---	----------	----------	-----------	----------	----------	-----------

1	2550	3760	4680	5960	7020	--
3	1950	2720	3280	4040	4650	--
7	1340	1840	2200	2670	3040	--
15	944	1230	1410	1620	1780	--
30	711	876	982	1110	1210	--
60	558	691	784	906	1000	--
90	492	596	665	755	823	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1948-72

## DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
767	520	409	337	285	242	180	128	80	45	33	24	19	15	12

## WILLAMETTE RIVER BASIN

93

## 14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR

LOCATION.--Lat 44°29'55", long 122°49'20", in SW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1905 to March 1907, October 1910 to December 1911 (gage heights only January to December 1911), July 1923 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Published as "South Fork of Santiam River at Waterloo" 1905-07, 1910-11.

GAGE.--Water-stage recorder. Datum of gage is 370.39 ft 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 and since December 1966 by Foster Lake. No diversion above station.

AVERAGE DISCHARGE.--60 years (water years 1906, 1924-82), 2,935 ft<sup>3</sup>/s, 2,126,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 24.50 ft; minimum, 61 ft<sup>3</sup>/s Oct. 12, 1966.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF GREEN PETER AND FOSTER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-65

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	143	4898	1192	1146	.96	3.4
NOVEMBER	111	10340	4081	2772	.68	11.5
DECEMBER	1068	15470	5314	3088	.58	15.0
JANUARY	898	12220	5110	2729	.53	14.4
FEBRUARY	1525	12070	5436	2526	.46	15.3
MARCH	1212	10530	4386	1815	.41	12.4
APRIL	1056	7935	4049	1419	.35	11.4
MAY	862	5875	3002	1379	.46	8.5
JUNE	437	5906	1721	1111	.65	4.9
JULY	176	1214	550	250	.45	1.6
AUGUST	126	385	261	72	.28	.7
SEPTEMBER	144	1118	321	235	.73	.9
ANNUAL	1704	4552	2910	680	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	150	123	111	103	95	90
3	152	124	112	104	96	90
7	156	126	114	105	96	90
14	164	132	118	109	99	94
30	184	146	130	118	107	100
60	225	171	148	131	114	104
90	268	196	168	148	129	118
120	372	249	204	174	146	131
183	850	579	474	402	334	295

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-65

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	104000
WEIGHTED SKEW = -.012						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	29400	42000	50700	62100	70700	79600
3	22000	31400	38000	47000	54000	61300
7	15700	21300	24900	29200	32400	35600
15	11400	14600	16600	18900	20500	22000
30	8730	11200	12600	14300	15400	16500
60	6860	8670	9820	11200	12200	13200
90	6150	7660	8590	9700	10500	11200

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-65

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9570	6650	5370	4510	3840	3300	2460	1770	1150	613	438	328	254	202	160



## WILLAMETTE RIVER BASIN

14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF GREEN PETER AND FOSTER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1967-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1968-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF	PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
								2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
OCTOBER	666	5530	2161	1103	.51	5.9	1	574	478	435	401	--	--
NOVEMBER	1807	9195	4431	2024	.46	12.1	3	581	484	440	406	--	--
DECEMBER	1126	12910	6963	3010	.43	19.1	7	603	499	450	413	--	--
JANUARY	713	9194	6216	2547	.41	17.0	14	613	507	458	420	--	--
FEBRUARY	597	8078	3923	2115	.54	10.7	30	641	537	488	450	--	--
MARCH	1115	9649	3184	2245	.71	8.7	60	711	602	555	522	--	--
APRIL	1059	4850	2708	1197	.44	7.4	90	847	689	615	559	--	--
MAY	852	3671	2375	1060	.45	6.5	120	1000	799	701	625	--	--
JUNE	678	3464	1507	873	.58	4.1	183	1370	1080	948	843	--	--
JULY	470	1234	742	178	.24	2.0							
AUGUST	475	1239	855	218	.25	2.3							
SEPTEMBER	473	2769	1469	583	.40	4.0							
ANNUAL	1407	4666	3043	895	.29	100							

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1967-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%		2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--							
WEIGHTED SKEW = --							1	15000	17100	17700	18000	--	--
							3	13900	15400	15700	15800	--	--
							7	12900	14300	14500	14600	--	--
							15	11000	13000	13700	14100	--	--
							30	8900	11200	12200	13200	--	--
							60	7350	9360	10300	11100	--	--
							90	6600	8340	9080	9720	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1967-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
10700	7260	5710	4540	3780	3290	2470	1880	1430	1100	966	867	783	701	574

## 14188800 THOMAS CREEK NEAR SCIO, OR

LOCATION.--Lat 44°42'42", long 122°45'55", in SE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1962 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 380.84 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several small diversions for irrigation above station.

AVERAGE DISCHARGE.--20 years, 497 ft<sup>3</sup>/s, 61.92 in/yr, 360,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.44 ft, from rating curve extended above 7,200 ft<sup>3</sup>/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 ft<sup>3</sup>/s Aug. 20, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1963-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	26	633	179	163	.91	3.0
NOVEMBER	128	1898	684	426	.62	11.4
DECEMBER	104	2310	1160	572	.49	19.4
JANUARY	144	1836	1136	527	.46	19.0
FEBRUARY	176	1532	812	367	.45	13.6
MARCH	245	1504	698	306	.44	11.7
APRIL	298	888	568	172	.30	9.5
MAY	168	744	378	150	.40	6.3
JUNE	74	556	187	118	.63	3.1
JULY	30	155	66	33	.51	1.1
AUGUST	14	203	43	41	.96	.7
SEPTEMBER	19	251	68	60	.88	1.1
ANNUAL	229	760	497	126	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	13	11	9.8	--	--
3	18	14	12	10	--	--
7	20	15	13	11	--	--
14	21	15	13	12	--	--
30	25	18	15	13	--	--
60	32	22	19	16	--	--
90	41	27	23	19	--	--
120	54	36	30	26	--	--
183	119	85	71	62	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1963-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4920	7640	12100	15600	20600	--	--
WEIGHTED SKEW = .185						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5200	7320	8660	10300	--	--
3	3840	5390	6470	7900	--	--
7	3000	4010	4630	5370	--	--
15	2190	2760	3070	3410	--	--
30	1680	2070	2250	2440	--	--
60	1300	1640	1820	2030	--	--
90	1140	1440	1620	1820	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1963-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1760	1180	908	744	618	531	390	277	170	92	69	51	38	29	21

## WILLAMETTE RIVER BASIN

## 14189000 SANTIAM RIVER AT JEFFERSON, OR

LOCATION.--Lat 44°42'55", long 122°00'40", in SE½ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1905 to June 1906 (gage heights and discharge measurements only), October 1907 to September 1916, October 1939 to September 1982. Gage-height records collected at same site since 1907 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 199.63 ft 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, since 1966 by Green Peter Lake and by Foster Lake. 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 West Stayton; some return flow reaches North Santiam River above station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany.

AVERAGE DISCHARGE.--52 years (water years 1908-16, 1940-82), 7,789 ft<sup>3</sup>/s, 5,643,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 24.22 ft; minimum observed, 260 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF DETROIT, GREEN PETER, AND FOSTER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1908-53

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	432	12290	3289	3364	1.02	3.6
NOVEMBER	622	26620	11020	6637	.60	12.0
DECEMBER	2915	24450	12350	6450	.52	13.5
JANUARY	4048	30310	13590	6709	.49	14.8
FEBRUARY	4325	24980	14200	5656	.40	15.5
MARCH	3229	21640	10880	4464	.41	11.9
APRIL	2956	16880	9345	3446	.37	10.2
MAY	2946	14720	8275	3248	.39	9.0
JUNE	1033	9233	4789	2205	.46	5.2
JULY	482	7123	1989	1404	.71	2.2
AUGUST	309	1842	811	373	.46	.9
SEPTEMBER	416	4086	1071	876	.82	1.2
ANNUAL	4246	11630	7598	1858	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1909-53

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	500	369	316	278	--	--
3	503	371	318	281	--	--
7	508	376	323	285	--	--
14	531	394	338	299	--	--
30	563	416	360	322	--	--
60	645	481	425	390	--	--
90	813	565	475	417	--	--
120	1190	763	604	497	--	--
183	2580	1830	1520	1290	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1908-53

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
50800	77600	120000	152000	195000	--	--
WEIGHTED SKEW = .101						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1908-53

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	66200	97400	118000	143000	--	--
3	51100	71900	84900	100000	--	--
7	40300	53900	60700	67400	--	--
15	29100	36800	40400	43700	--	--
30	22200	28400	31300	34100	--	--
60	17500	22000	24200	26400	--	--
90	15800	19200	20800	22300	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1908-53

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
25000	17000	13500	11400	9940	8690	6730	5160	3640	2010	1370	1020	776	626	483

## WILLAMETTE RIVER BASIN

97

14189000 SANTIAM RIVER AT JEFFERSON, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF DETROIT, GREEN PETER, AND FOSTER DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1967-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2909	11890	5056	2170	.43	5.4
NOVEMBER	4431	18390	10420	4351	.42	11.1
DECEMBER	2420	31700	17530	7463	.43	18.7
JANUARY	2178	24520	16070	6555	.41	17.2
FEBRUARY	1897	21250	10770	5308	.49	11.5
MARCH	3474	25700	8749	5487	.63	9.4
APRIL	3874	11930	7045	2626	.37	7.5
MAY	2115	10430	6523	2565	.39	7.0
JUNE	1733	8558	4230	2233	.53	4.5
JULY	1197	2970	1853	470	.25	2.0
AUGUST	1100	2883	1907	446	.23	2.0
SEPTEMBER	1553	5325	3373	917	.27	3.6
ANNUAL	3512	11690	7788	2226	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1300	1170	1110	1050	--	--
3	1330	1190	1120	1060	--	--
7	1360	1220	1150	1090	--	--
14	1410	1260	1180	1110	--	--
30	1510	1330	1230	1150	--	--
60	1740	1460	1330	1230	--	--
90	2080	1700	1520	1370	--	--
120	2500	2020	1780	1600	--	--
183	3370	2760	2490	2290	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1967-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	44700	56200	60200	63000	--	--
3	38200	43900	45000	45500	--	--
7	33700	37600	38100	38300	--	--
15	28500	33200	34200	34700	--	--
30	23300	28600	30500	31800	--	--
60	19100	23900	25700	27100	--	--
90	16800	21000	22700	24000	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1967-82

## DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
26400	18100	14000	11500	9630	8370	6390	4920	3940	3160	2810	2370	1980	1660	1430

## WILLAMETTE RIVER BASIN

14189500 LUCKIAMUTE RIVER NEAR HOSKINS, OR

LOCATION.--Lat 44°43'10", long 123°30'10", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1934 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 378.7 ft National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Logponds upstream cause diurnal fluctuation at times. Minor diversion above station by pumping for irrigation.

AVERAGE DISCHARGE.--44 years, 209 ft<sup>3</sup>/s, 82.75 in/yr, 151,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft<sup>3</sup>/s Dec. 14, 1946, Feb. 17, 1949; maximum gage height, 13.22 ft Dec. 14, 1946; minimum discharge, 4.0 ft<sup>3</sup>/s Sept. 5-8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 6, 1933, reached a stage of about 13.8 ft, from information by local residents.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1935-78

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7.7	402	70	78	1.11	2.8
NOVEMBER	10	811	294	203	.69	11.7
DECEMBER	46	980	475	222	.47	18.9
JANUARY	65	1112	487	242	.50	19.4
FEBRUARY	109	856	432	177	.41	17.2
MARCH	84	624	341	138	.40	13.6
APRIL	67	492	200	93	.47	7.9
MAY	33	220	107	49	.46	4.3
JUNE	27	168	51	25	.48	2.0
JULY	15	56	25	8.1	.33	1.0
AUGUST	8.1	31	15	4.6	.30	.6
SEPTEMBER	8.2	87	19	15	.77	.8
ANNUAL	80	334	209	50	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1936-78

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.3	7.3	6.4	5.8	5.1	4.7
3	9.5	7.6	6.7	6.1	5.4	5.0
7	9.7	7.8	7.0	6.4	5.7	5.4
14	10	8.3	7.4	6.8	6.1	5.8
30	11	9.1	8.3	7.7	7.0	6.7
60	13	11	9.5	8.7	7.9	7.4
90	15	12	11	9.7	8.7	8.2
120	19	15	13	11	10	9.3
183	37	27	23	20	17	15

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1935-78DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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

WEIGHTED SKEW = -.038

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1935-78DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- UTIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2280	2970	3420	3990	4410	4840
3	1750	2230	2570	3010	3360	3710
7	1300	1630	1840	2090	2270	2450
15	967	1190	1320	1460	1560	1640
30	735	906	995	1090	1140	1190
60	581	717	789	862	908	948
90	526	645	701	753	783	807

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1935-78

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
816	542	407	323	260	214	144	89	54	31	25	20	16	13	11

## WILLAMETTE RIVER BASIN

99

## 14190000 LUCKIAMUTE RIVER AT PEDEE, OR

LOCATION.--Lat 44°44'35", long 123°25'25", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 245.47 ft 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 above station. Several small diversions for irrigation above station.

AVERAGE DISCHARGE.--30 years, 458 ft<sup>3</sup>/s, 331,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 20.09 ft, from rating curve extended above 8,000 ft<sup>3</sup>/s; minimum, 7.0 ft<sup>3</sup>/s Sept. 12, 1944, Aug. 25, 30, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	14	729	131	152	1.16	2.4
NOVEMBER	32	1332	571	388	.68	10.3
DECEMBER	233	2415	1037	540	.52	18.8
JANUARY	265	2280	1143	582	.51	20.7
FEBRUARY	304	2397	1057	452	.43	19.1
MARCH	189	1377	735	315	.43	13.3
APRIL	162	1021	424	205	.48	7.7
MAY	103	504	233	113	.48	4.2
JUNE	50	191	100	34	.34	1.8
JULY	23	66	44	12	.27	.8
AUGUST	11	43	25	8.4	.34	.5
SEPTEMBER	11	105	30	22	.73	.5
ANNUAL	238	714	458	103	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10	8.8	7.9	6.9	--
3	14	11	9.7	8.7	7.6	--
7	16	12	11	9.4	8.3	--
14	17	13	11	10	8.7	--
30	19	15	12	11	9.4	--
60	23	17	15	13	11	--
90	28	20	17	14	12	--
120	36	26	22	19	16	--
183	76	54	45	37	30	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	
WEIGHTED SKEW = .462							

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4770	6400	7740	9730	11500	--
3	3820	5040	6040	7520	8800	--
7	2930	3830	4450	5280	5930	--
15	2190	2830	3220	3670	3990	--
30	1680	2130	2360	2590	2730	--
60	1300	1660	1860	2080	2230	--
90	1180	1490	1660	1830	1940	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
1810	1220	885	692	557	451	306	192	112	62	46	34	27	22	17	

## WILLAMETTE RIVER BASIN

14190500 LUCKIAMUTE RIVER NEAR SUVER, OR

LOCATION.--Lat 44°47'00", long 123°14'00", in SW¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1905 to October 1911, July 1940 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 171.92 ft 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 above station. A few small diversions for irrigation above station.

AVERAGE DISCHARGE.--48 years, 910 ft<sup>3</sup>/s, 51.49 in/yr, 659,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 34.52 ft; minimum, 0.65 ft<sup>3</sup>/s Aug. 13, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	1241	197	218	1.11	1.8
NOVEMBER	57	4574	1094	906	.83	10.0
DECEMBER	106	5112	2171	1148	.53	19.8
JANUARY	151	4727	2345	1156	.49	21.4
FEBRUARY	253	4769	2065	926	.45	18.8
MARCH	391	3002	1458	684	.47	13.3
APRIL	312	1847	858	414	.48	7.8
MAY	190	1026	421	191	.45	3.8
JUNE	79	492	190	83	.44	1.7
JULY	30	184	77	31	.40	.7
AUGUST	9.5	85	42	18	.42	.4
SEPTEMBER	17	191	56	34	.61	.5
ANNUAL	230	1464	910	249	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	16	11	7.5	4.6	3.1
3	27	17	12	8.5	5.5	4.0
7	28	18	13	9.8	6.7	5.0
14	30	20	15	12	8.7	6.9
30	33	22	17	14	10	8.6
60	40	28	23	19	15	13
90	47	34	28	24	20	17
120	61	43	36	31	26	23
183	129	93	77	65	54	47

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7970	11800	17500	21600	27000	31300	35700
WEIGHTED SKEW = .052						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10400	15000	18000	21900	24800	27700
3	8360	11600	13700	16500	18500	20600
7	6470	8560	9770	11100	12000	12900
15	4690	5990	6680	7400	7850	8240
30	3500	4410	4850	5280	5530	5730
60	2760	3480	3830	4150	4340	4490
90	2460	3070	3330	3550	3660	3740

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3750	2460	1790	1380	1080	875	577	350	195	107	80	61	47	37	28

## WILLAMETTE RIVER BASIN

101

14190700 RICKREALL CREEK NEAR DALLAS, OR

LOCATION.--Lat 44°54'55", long 123°23'02", in SW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1957 to September 1978.

GAGE.--Water-stage recorder and concrete control. Altitude 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 above 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 ft<sup>3</sup>/s, 73.35 in/yr, 107,200 acre-ft/yr, adjusted for diversion and storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,160 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 8.78 ft; no flow at times.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-78

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3.2	81	29	26	.90	1.6
NOVEMBER	20	638	210	155	.74	12.0
DECEMBER	9.6	773	378	190	.50	21.5
JANUARY	13	685	397	197	.50	22.6
FEBRUARY	60	590	273	150	.55	15.5
MARCH	72	432	249	121	.49	14.2
APRIL	52	252	119	60	.50	6.8
MAY	25	139	61	32	.53	3.5
JUNE	8.5	64	22	12	.54	1.2
JULY	3.5	15	7.5	2.9	.39	.4
AUGUST	1.0	11	4.8	2.6	.54	.3
SEPTEMBER	1.8	15	6.6	3.9	.59	.4
ANNUAL	39	255	146	43	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-78

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1.9	.6	.2	.1	--	--
3	2.2	.9	.5	.3	--	--
7	2.4	1.4	1.0	.8	--	--
14	2.7	1.6	1.2	.9	--	--
30	3.2	2.0	1.5	1.2	--	--
60	4.2	2.6	2.0	1.6	--	--
90	4.9	3.3	2.6	2.2	--	--
120	6.4	4.4	3.5	3.0	--	--
183	16	11	8.6	7.3	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-78

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2380	3420	4040	4760	--	--
3	1690	2340	2750	3230	--	--
7	1180	1560	1770	2000	--	--
15	822	1020	1120	1220	--	--
30	605	717	759	792	--	--
60	475	575	610	635	--	--
90	411	499	528	548	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-78

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
622	392	286	214	165	138	88	47	23	12	8.7	6.7	5.3	4.0	2.6



## WILLAMETTE RIVER BASIN

## 14191000 WILLAMETTE RIVER AT SALEM, OR

LOCATION.--Lat 44°56'40", long 123°02'30", in SE¼SW¼ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1909 to December 1916, January 1923 to September 1982. 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.

GAGE.--Water-stage recorder. Datum of gage is 106.14 ft 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 12 reservoirs above station. Many small diversions for irrigation above station; part of flow of Salem Canal, which diverts water from North Santiam River, returns to Willamette River below station, through Mill Creek at Salem.

AVERAGE DISCHARGE.--66 years, 23,560 ft<sup>3</sup>/s, 43.95 in/yr, 17,070,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 348,000 ft<sup>3</sup>/s Jan. 8, 1923, gage height, 38.3 ft, present datum; minimum, 2,470 ft<sup>3</sup>/s Aug. 27, 1940, gage height, 3.55 ft, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 500,000 ft<sup>3</sup>/s Dec. 4, 1861, gage height, about 47 ft present datum, from rating curve extended above 250,000 ft<sup>3</sup>/s in 1916. Floods of Jan. 16, 1881, and Feb. 5, 1890, reached stages of 44.3 ft, discharge, 428,000 ft<sup>3</sup>/s, and 45.1 ft, discharge, 448,000 ft<sup>3</sup>/s, respectively, from floodmarks and information by Corps of Engineers.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF 12 UPSTREAM DAMS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1910-41

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3214	14650	6236	3025	.49	2.4
NOVEMBER	3140	68550	24280	18580	.77	9.4
DECEMBER	10020	63550	31580	14790	.47	12.2
JANUARY	10820	97720	43070	21480	.50	16.7
FEBRUARY	14580	87540	40860	20150	.49	15.8
MARCH	11110	71490	33840	15600	.46	13.1
APRIL	10790	63410	28360	13040	.46	11.0
MAY	9708	33460	20280	7259	.36	7.9
JUNE	5065	37360	13990	7655	.55	5.4
JULY	3286	19870	6985	3745	.54	2.7
AUGUST	2653	7766	4131	1116	.27	1.6
SEPTEMBER	2682	9371	4455	1613	.36	1.7
ANNUAL	13670	35220	21290	5668	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1911-41

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3260	2870	2700	2560	2420	--
3	3280	2900	2720	2580	2430	--
7	3310	2920	2740	2600	2460	--
14	3360	2950	2770	2630	2480	--
30	3460	3010	2820	2680	2530	--
60	3630	3080	2880	2760	2640	--
90	3980	3280	3010	2820	2650	--
120	4410	3530	3210	2990	2790	--
183	6920	5250	4620	4190	3790	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1910-41

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
109000	153000	216000	258000	314000	356000	--
WEIGHTED SKEW = .038						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1910-41

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	145000	202000	239000	286000	320000	--
3	135000	182000	211000	247000	272000	--
7	110000	143000	161000	182000	197000	--
15	81700	104000	117000	132000	142000	--
30	62600	77300	85200	93500	98800	--
60	49100	60400	67000	74700	79900	--
90	43500	52700	57900	63600	67400	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1910-41

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
67500	47800	37400	31800	27700	24400	19300	14300	9580	6160	5110	4360	3850	3500	3140

## WILLAMETTE RIVER BASIN

103

14191000 WILLAMETTE RIVER AT SALEM, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF 12 UPSTREAM DAMS)

MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	10950	24390	14470	3464	.24	4.9
NOVEMBER	12240	70400	29040	16440	.57	9.8
DECEMBER	6780	91810	55450	24340	.44	18.7
JANUARY	6377	78420	52460	22620	.43	17.7
FEBRUARY	5313	60290	34660	16320	.47	11.7
MARCH	11550	73670	29940	17330	.58	10.1
APRIL	10260	38740	23250	8934	.38	7.8
MAY	7701	25220	18240	5390	.30	6.2
JUNE	6539	21990	13100	5048	.39	4.4
JULY	6018	10610	7619	1423	.19	2.6
AUGUST	6445	9540	7630	944	.12	2.6
SEPTEMBER	8047	13340	10670	1523	.14	3.6
ANNUAL	9792	37960	24690	7669	.31	100

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	6280	5490	5000	4580	--	--
3	6340	5540	5050	4620	--	--
7	6430	5630	5160	4740	--	--
14	6530	5730	5260	4850	--	--
30	6650	5890	5470	5120	--	--
60	7060	6260	5910	5660	--	--
90	7770	6750	6290	5940	--	--
120	8800	7620	7080	6670	--	--
183	10800	9230	8490	7930	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	123000	159000	172000	182000	--	--
3	118000	148000	157000	163000	--	--
7	107000	128000	132000	134000	--	--
15	91500	108000	112000	113000	--	--
30	76300	89800	92400	93500	--	--
60	62000	77700	82200	84800	--	--
90	53000	68800	74900	79500	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
81300	60700	45600	35000	28500	24600	19000	15100	12500	10800	9700	8650	7750	7050	6420

## WILLAMETTE RIVER BASIN

14192500 SOUTH YAMHILL RIVER NEAR WILLAMINA, OR

LOCATION.--Lat 45°02'50", long 123°30'10", in NE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1934 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 235.55 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Slight regulation occasionally at low flows by millpond upstream. No diversion above station.

AVERAGE DISCHARGE.--48 years, 623 ft<sup>3</sup>/s, 63.61 in/yr, 451,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 17.07 ft; minimum, 2.6 ft<sup>3</sup>/s Oct. 11, 1952.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1935-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	846	188	184	.98	2.5
NOVEMBER	22	2650	873	602	.69	11.6
DECEMBER	104	2917	1501	679	.45	20.0
JANUARY	132	3172	1509	743	.49	20.1
FEBRUARY	278	2869	1344	554	.41	17.9
MARCH	270	1981	998	415	.42	13.3
APRIL	180	1365	586	276	.47	7.8
MAY	69	613	276	131	.47	3.7
JUNE	55	405	125	75	.60	1.7
JULY	12	85	48	20	.42	.6
AUGUST	6.7	82	25	13	.52	.3
SEPTEMBER	9.7	282	42	46	1.08	.6
ANNUAL	215	1028	623	152	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	8.4	6.8	5.6	4.5	3.9
3	13	9.0	7.3	6.1	5.0	4.3
7	14	9.7	7.9	6.7	5.4	4.7
14	15	11	8.8	7.4	6.1	5.3
30	18	12	10	8.7	7.2	6.3
60	23	16	13	11	9.1	8.0
90	28	19	16	13	11	9.7
120	39	26	21	18	15	13
183	91	62	50	41	33	29

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1935-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7320	9570	12400	14100	16200	17600	19000
WEIGHTED SKEW = -.136						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1935-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7420	9460	10700	12000	12900	13800
3	5710	7230	8180	9310	10100	10900
7	4250	5230	5760	6320	6690	7010
15	3120	3810	4150	4500	4710	4890
30	2360	2800	2980	3140	3220	3280
60	1820	2220	2420	2610	2730	2830
90	1630	1980	2150	2300	2380	2450

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1935-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2500	1710	1250	960	761	609	400	248	136	70	50	36	27	21	16

## WILLAMETTE RIVER BASIN

105

14193000 WILLAMINA CREEK NEAR WILLAMINA, OR

LOCATION.--Lat 45°08'35", long 123°29'35", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1934 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 315 ft 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 above station.

AVERAGE DISCHARGE.--48 years, 261 ft<sup>3</sup>/s, 54.78 in/yr, 189,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 13.54 ft, from rating curve extended above 3,400 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 11.65 ft; minimum, 5.4 ft<sup>3</sup>/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 ft<sup>3</sup>/s from rating curve extended above 3,400 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 11.65 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1935-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	276	64	59	.93	2.0
NOVEMBER	15	1084	310	238	.77	9.8
DECEMBER	35	1220	597	303	.51	19.0
JANUARY	43	1216	617	319	.52	19.6
FEBRUARY	86	1121	564	228	.40	17.9
MARCH	105	929	449	186	.41	14.3
APRIL	95	544	272	112	.41	8.6
MAY	54	296	135	52	.38	4.3
JUNE	39	160	66	25	.38	2.1
JULY	20	54	32	7.9	.25	1.0
AUGUST	12	38	20	5.3	.27	.6
SEPTEMBER	11	69	22	11	.51	.7
ANNUAL	83	461	261	69	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10	9.5	8.9	8.4	8.1
3	12	11	9.8	9.3	8.7	8.4
7	13	11	10	9.5	8.9	8.5
14	14	12	11	10	9.5	9.1
30	15	13	12	11	10	10
60	17	14	13	12	11	11
90	20	16	15	13	12	12
120	25	19	17	16	14	13
183	46	34	29	25	21	19

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1935-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	3710	5020	5960	7250	8270	9360
WEIGHTED SKEW = .447						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1935-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2870	3830	4460	5230	5800	6370
3	2200	2860	3300	3880	4310	4750
7	1670	2100	2350	2630	2810	2990
15	1270	1550	1690	1820	1890	1950
30	957	1150	1230	1290	1330	1350
60	741	923	1010	1110	1160	1210
90	661	820	895	966	1010	1040

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1935-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
986	666	513	407	332	274	183	114	67	39	30	24	21	17	14

## WILLAMETTE RIVER BASIN

14193300 MILL CREEK NEAR WILLAMINA, OR

LOCATION.--Lat 44°58'15", long 123°26'55", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1958 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 140 ft<sup>3</sup>/s, 69.39 in/yr, 101,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,170 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.47 ft; minimum, 2.6 ft<sup>3</sup>/s Sept. 8, 1958.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	6.7	94	40	30	.76	2.4
NOVEMBER	80	385	194	103	.53	11.6
DECEMBER	139	658	330	155	.47	19.7
JANUARY	76	631	376	179	.48	22.4
FEBRUARY	83	572	269	145	.54	16.0
MARCH	67	418	241	104	.43	14.4
APRIL	55	250	120	61	.51	7.2
MAY	24	129	58	31	.52	3.5
JUNE	12	69	24	14	.58	1.4
JULY	6.6	13	9.3	2.1	.22	.6
AUGUST	3.9	17	6.2	3.3	.53	.4
SEPTEMBER	3.4	43	11	10	.95	.7
ANNUAL	90	183	140	23	.16	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3.9	3.4	3.1	2.9	--	--
3	4.0	3.4	3.1	2.9	--	--
7	4.1	3.5	3.3	3.1	--	--
14	4.3	3.7	3.4	3.2	--	--
30	4.7	3.8	3.5	3.2	--	--
60	5.4	4.2	3.8	3.5	--	--
90	6.6	4.9	4.3	4.0	--	--
120	8.6	6.3	5.4	4.9	--	--
183	21	15	12	10	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2310	3060	4090	4790	5690	--	--
WEIGHTED SKEW = .159						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2130	2920	3510	4310	--	--
3	1540	2010	2380	2920	--	--
7	1060	1320	1520	1790	--	--
15	774	933	1020	1130	--	--
30	561	640	678	714	--	--
60	429	509	549	590	--	--
90	369	427	455	482	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
566	355	252	195	155	125	80	50	29	16	11	8.0	6.3	5.2	4.3

## 14194000 SOUTH YAMHILL RIVER NEAR WHITESON, OR

LOCATION.--Lat 45°10'08", long 123°12'25", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1940 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 82.30 ft 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 above station.

AVERAGE DISCHARGE.--42 years, 1,768 ft<sup>3</sup>/s, 47.83 in/yr, 1,281,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 47.20 ft; minimum, 3.2 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	23	1819	383	392	1.02	1.8
NOVEMBER	105	8085	2073	1639	.79	9.7
DECEMBER	188	8493	4346	2183	.50	20.4
JANUARY	242	8884	4621	2462	.53	21.7
FEBRUARY	423	8890	4035	1854	.46	18.9
MARCH	699	6238	2921	1401	.48	13.7
APRIL	545	3623	1681	860	.51	7.9
MAY	269	1736	727	374	.51	3.4
JUNE	121	910	295	159	.54	1.4
JULY	38	200	104	43	.41	.5
AUGUST	9.7	153	50	26	.51	.2
SEPTEMBER	18	450	85	81	.95	.4
ANNUAL	461	3119	1768	519	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	15	10	7.7	5.3	4.0
3	25	16	12	8.8	6.2	4.9
7	28	17	13	9.9	7.1	5.6
14	31	20	15	12	8.4	6.6
30	36	24	18	15	11	9.4
60	46	31	25	20	16	14
90	60	39	31	26	21	18
120	85	56	45	38	31	27
183	215	145	116	95	75	64

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
16800	22400	29200	33300	38100	41300	44400
WEIGHTED SKEW = -.287						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	20100	26300	29600	33200	35400	37300
3	16900	21200	23400	25600	26900	28000
7	12900	16200	17800	19300	20200	20900
15	9480	11800	12800	13700	14200	14500
30	7070	8690	9360	9920	10200	10400
60	5450	6940	7640	8310	8680	8980
90	4820	6100	6660	7140	7400	7590

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7620	4960	3580	2710	2080	1650	1050	617	321	161	112	77	56	42	30

## WILLAMETTE RIVER BASIN

14194300 NORTH YAMHILL RIVER NEAR FAIRDALE, OR

LOCATION.--Lat 45°21'55", long 123°22'40", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1958 to March 1966, October 1967 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 560 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--22 years (water years 1959-65, 1968-82), 48.1 ft<sup>3</sup>/s, 72.34 in/yr, 34,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,330 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 6.88 ft, from rating curve extended above 1,000 ft<sup>3</sup>/s; maximum gage height, 9.7 ft Dec. 23, 1964 (backwater from debris); minimum discharge, 2.3 ft<sup>3</sup>/s Sept. 23-26, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3.5	32	13	8.2	.65	2.2
NOVEMBER	5.7	177	59	37	.62	10.3
DECEMBER	7.8	202	106	52	.49	18.4
JANUARY	10	228	110	59	.54	19.1
FEBRUARY	20	179	92	36	.40	15.9
MARCH	36	151	81	32	.40	14.0
APRIL	25	91	54	19	.36	9.4
MAY	16	46	29	8.3	.28	5.1
JUNE	9.3	35	15	6.1	.40	2.6
JULY	5.3	12	7.4	1.6	.21	1.3
AUGUST	3.5	7.5	4.9	1.0	.21	.8
SEPTEMBER	2.7	16	5.8	3.1	.53	1.0
ANNUAL	17	81	48	14	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3.1	2.7	2.5	2.4	--	--
3	3.2	2.7	2.6	2.4	--	--
7	3.3	2.8	2.6	2.5	--	--
14	3.5	3.0	2.8	2.6	--	--
30	3.8	3.2	3.0	2.8	--	--
60	4.5	3.7	3.4	3.1	--	--
90	5.0	4.1	3.7	3.4	--	--
120	5.9	4.8	4.3	4.1	--	--
183	11	8.2	7.2	6.5	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
398	612	993	1310	1790	--	--
WEIGHTED SKEW = .418						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	461	718	923	1230	--	--
3	363	521	637	797	--	--
7	277	363	413	471	--	--
15	209	267	301	341	--	--
30	164	197	212	226	--	--
60	129	163	181	200	--	--
90	113	144	160	175	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
172	119	94	75	61	52	38	25	16	8.9	7.1	5.9	5.1	4.3	3.6

## WILLAMETTE RIVER BASIN

109

14195000 HASKINS CREEK NEAR MCMINNVILLE, OR

LOCATION.--Lat 45°18'50", long 123°21'55", in NE¼ sec.13, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17090008, on left bank 150 ft downstream from Idlewild Creek, 0.5 mi upstream from Haskins Creek Dam, and 11 mi northwest of McMinnville.

DRAINAGE AREA.--6.48 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1928 to September 1951.

GAGE.--Water-stage recorder. Wooden control since September 1936. Altitude of gage is 815 ft, 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 ft<sup>3</sup>/s) has been diverted at a point 800 ft upstream for municipal supply of McMinnville.

AVERAGE DISCHARGE.--23 years (water years 1929-51), 26.4 ft<sup>3</sup>/s, 19,110 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 610 ft<sup>3</sup>/s Mar. 31, 1931, gage height, 4.00 ft (before control was built); minimum prior to diversion above station, 1.0 ft<sup>3</sup>/s Oct. 8, 1932.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-51

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.4	26	5.6	5.7	1.02	1.8
NOVEMBER	1.6	80	27	22	.81	8.7
DECEMBER	11	141	53	33	.63	17.1
JANUARY	13	118	55	28	.50	17.8
FEBRUARY	22	108	58	25	.42	18.8
MARCH	12	92	49	22	.45	16.0
APRIL	9.1	70	31	16	.51	10.1
MAY	4.9	38	15	7.5	.50	4.9
JUNE	2.8	20	7.2	3.5	.49	2.3
JULY	.8	6.8	3.3	1.5	.44	1.1
AUGUST	.3	3.8	2.0	.9	.47	.6
SEPTEMBER	.3	4.2	2.0	1.0	.51	.7
ANNUAL	13	38	26	7.4	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-51

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.9	.4	.3	.2	--	--
3	1.0	.5	.3	.2	--	--
7	1.1	.6	.4	.2	--	--
14	1.2	.6	.4	.2	--	--
30	1.4	.7	.5	.3	--	--
60	1.8	1.0	.7	.5	--	--
90	2.0	1.2	.8	.6	--	--
120	2.4	1.6	1.2	1.0	--	--
183	4.6	3.2	2.6	2.2	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1929-51

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .244						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-51

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	234	320	382	466	--	--
3	188	253	302	368	--	--
7	146	197	231	277	--	--
15	114	150	171	195	--	--
30	89	115	130	146	--	--
60	70	89	99	110	--	--
90	64	80	88	96	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-51

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
98	70	53	42	34	29	18	11	6.5	3.9	3.1	2.5	2.1	1.7	1.1



## WILLAMETTE RIVER BASIN

14196500 NORTH YAMHILL RIVER NEAR PIKE, OR

LOCATION.--Lat 45°22'15", long 123°17'10", in NE¼ sec.27, T.2 S., R.5 W., Yamhill County, Hydrologic Unit 17090008, on left bank 1.3 mi west of Pike, 2.3 mi downstream from Haskins Creek, and 5.2 mi northwest of Yamhill.

DRAINAGE AREA.--47.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to September 1951.

GAGE.--Water-stage recorder. Datum of gage is 249.22 ft 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 above station.

AVERAGE DISCHARGE.--11 years (water years 1941-51), 184 ft<sup>3</sup>/s, 133,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,780 ft<sup>3</sup>/s Feb. 10, 1949, gage height, 9.28 ft, from rating curve extended above 2,500 ft<sup>3</sup>/s by logarithmic plotting; minimum, 4.2 ft<sup>3</sup>/s Sept. 11, 1944; minimum daily, 6.0 ft<sup>3</sup>/s Sept. 10, 1944.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-51

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	13	206	54	59	1.10	2.4
NOVEMBER	81	474	245	138	.56	11.0
DECEMBER	93	729	418	204	.49	18.7
JANUARY	132	765	384	177	.46	17.2
FEBRUARY	162	850	477	201	.42	21.4
MARCH	92	609	297	153	.52	13.3
APRIL	69	287	172	73	.43	7.7
MAY	48	227	92	51	.55	4.1
JUNE	30	65	45	11	.26	2.0
JULY	15	29	21	4.5	.21	1.0
AUGUST	11	18	13	2.2	.17	.6
SEPTEMBER	9.3	28	14	5.9	.43	.6
ANNUAL	104	239	184	50	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-51

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.4	7.2	6.6	6.1	--	--
3	8.6	7.4	6.8	6.4	--	--
7	9.1	7.8	7.1	6.6	--	--
14	9.4	8.1	7.6	7.1	--	--
30	10	8.9	8.4	8.0	--	--
60	12	11	9.9	9.5	--	--
90	14	12	11	11	--	--
120	17	15	14	13	--	--
183	33	29	26	25	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-51

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	3560	4060	--	--	--
WEIGHTED SKEW = .107						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-51

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2010	2480	2740	--	--	--
3	1490	1770	1920	--	--	--
7	1110	1390	1550	--	--	--
15	865	1090	1200	--	--	--
30	649	830	913	--	--	--
60	521	652	712	--	--	--
90	474	602	665	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-51

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
717	495	369	287	231	187	121	75	49	29	22	18	14	12	9.9

## WILLAMETTE RIVER BASIN

111

14197000 NORTH YAMHILL RIVER AT PIKE, OR

LOCATION.--Lat 45°22'10", long 123°15'15", in NW¼ sec.25, T.2 S., R.5 W., Yamhill County, Hydrologic Unit 17090008, on right bank 500 ft downstream from Turner Creek, 0.5 mi southeast of Pike, 4.0 mi northwest of Yamhill, and at mile 20.5.

DRAINAGE AREA.--66.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1948 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 192.66 ft 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.

REMARKS.--Seasonal regulation by Haskins Creek Reservoir; occasional diurnal fluctuation caused by Haskins Creek Dam and smaller dams upstream. Water supply for city of McMinnville is diverted from Haskins Creek above station and that for city of Yamhill is diverted from Turner Creek above station. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--25 years, 242 ft<sup>3</sup>/s, 49.20 in/yr, 175,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,530 ft<sup>3</sup>/s Dec. 21, 1955, gage height, 12.42 ft, from rating curve extended above 2,600 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum, 1.7 ft<sup>3</sup>/s Sept. 3, 1972.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1949-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.5	162	48	43	.89	1.6
NOVEMBER	17	683	260	166	.64	8.9
DECEMBER	187	1023	545	242	.44	18.7
JANUARY	162	1122	636	312	.49	21.8
FEBRUARY	171	1163	556	257	.46	19.1
MARCH	144	807	441	180	.41	15.1
APRIL	78	411	227	87	.38	7.8
MAY	58	214	111	46	.41	3.8
JUNE	26	85	48	17	.35	1.7
JULY	10	34	20	5.9	.29	.7
AUGUST	5.6	21	12	3.6	.30	.4
SEPTEMBER	6.9	39	14	6.8	.50	.5
ANNUAL	159	366	242	47	.19	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1950-73

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	7.7	5.6	4.3	3.4	2.4	--
3	7.9	5.8	4.6	3.6	2.6	--
7	8.2	6.1	4.8	3.9	2.9	--
14	8.6	6.5	5.4	4.6	3.7	--
30	9.3	7.2	6.3	5.7	5.0	--
60	11	8.3	7.2	6.4	5.6	--
90	13	9.8	8.6	7.7	6.8	--
120	16	12	11	9.2	8.0	--
183	34	25	21	18	15	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1949-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	9830	--
WEIGHTED SKEW = .472						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1949-73

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2700	3680	4410	5420	6250	--
3	2030	2620	3080	3740	4280	--
7	1570	1940	2170	2450	2640	--
15	1250	1510	1630	1750	1820	--
30	936	1110	1200	1280	1330	--
60	724	880	963	1050	1110	--
90	638	762	822	882	919	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1949-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
938	638	479	384	313	256	166	97	53	28	20	16	13	11	8.4

LOCATION.--Lat 45°17'57", long 122°45'00", in SE¼NE¼ sec.24, T.3 S., R.1 W., Clackamas County, Hydrologic Unit 17090007, on left bank, 0.2 mi downstream from Boeckman Creek, 1.1 mi downstream from bridge on Interstate Highway 5 at Wilsonville, and at mile 37.4.

PERIOD OF RECORD.--October 1948 to July 1973.

REMARKS.--Flow regulated by 12 reservoirs above station since 1968. Many diversions for irrigation above station.

AVERAGE DISCHARGE.--24 years (water years 1949-72), 28,900 ft<sup>3</sup>/s, 21,000,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 339,000 ft<sup>3</sup>/s Dec. 25, 1964, elevation, 94.74 ft; minimum daily, 3,600 ft<sup>3</sup>/s Nov. 29, 30, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 4, 1861, reached an elevation of about 105 ft at Wilsonville (discharge not determined).

## MONTHLY AND ANNUAL MEAN DISCHARGES 1949-72

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1950-72MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1949-72

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1949-72

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
94600	69700	53600	43100	35700	30400	24100	18700	13900	10400	8940	7780	6960	6370	5670

## WILLAMETTE RIVER BASIN

113

14198500 MOLALLA RIVER ABOVE PINE CREEK, NEAR WILHOIT, OR

LOCATION.--Lat 45°00'35", long 122°28'45", in NE¼NE¼ 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 mi<sup>2</sup>, at cableway 0.2 mi downstream.

PERIOD OF RECORD.--October 1935 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 791.35 ft 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 above station. Records given herein are for measuring site.

AVERAGE DISCHARGE.--47 years, 544 ft<sup>3</sup>/s, 76.16 in/yr, 394,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 16.3 ft, from floodmark, site and datum then in use, from rating curve extended above 5,200 ft<sup>3</sup>/s; minimum, 18 ft<sup>3</sup>/s Oct. 3, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	29	1020	243	227	.93	3.7
NOVEMBER	24	1799	731	482	.66	11.2
DECEMBER	106	2604	1056	543	.51	16.1
JANUARY	119	2574	1032	577	.56	15.8
FEBRUARY	131	2411	933	447	.48	14.2
MARCH	258	1705	745	314	.42	11.4
APRIL	198	1366	720	238	.33	11.0
MAY	147	1062	569	224	.39	8.7
JUNE	74	726	291	152	.52	4.4
JULY	37	211	101	41	.41	1.5
AUGUST	23	193	54	28	.52	.8
SEPTEMBER	25	240	76	56	.73	1.2
ANNUAL	241	921	544	133	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	24	22	20	19	18
3	31	25	22	21	19	18
7	32	25	23	21	20	19
14	34	27	24	22	20	19
30	38	29	26	24	22	20
60	46	35	30	27	25	23
90	57	42	36	32	28	26
120	79	55	45	39	33	29
183	168	122	104	91	78	71

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5600	7670	10800	13100	16300	18800	21500
WEIGHTED SKEW = .325						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5850	7880	8970	10100	10800	11500
3	4400	5860	6660	7530	8080	8560
7	3190	4170	4660	5160	5450	5690
15	2220	2830	3140	3440	3620	3770
30	1700	2150	2370	2580	2710	2810
60	1330	1670	1860	2050	2180	2290
90	1190	1480	1640	1800	1910	1990

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1850	1240	966	801	689	592	434	319	219	125	91	69	54	43	34

## WILLAMETTE RIVER BASIN

14200000 MOLALLA RIVER NEAR CANBY, OR

LOCATION.--Lat 45°14'40", long 122°41'10", in NW¼NE¼ sec.9, T.4 S., R.1 E., Clackamas County, Hydrologic Unit 17090009, on left bank at upstream side of Goods bridge, 1.5 mi south of Canby, and at mile 6.0.

DRAINAGE AREA.--323 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1928 to September 1959, October 1963 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 104.00 ft 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 above station.

AVERAGE DISCHARGE.--46 years (water years 1929-59, 1964-78), 1,163 ft<sup>3</sup>/s, 48.90 in/yr, 842,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 16.76 ft; minimum, 20 ft<sup>3</sup>/s Aug. 27, 1959.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-78

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	60	2201	447	471	1.05	3.2
NOVEMBER	53	3864	1525	1083	.71	10.9
DECEMBER	211	5835	2292	1268	.55	16.4
JANUARY	303	5124	2433	1221	.50	17.4
FEBRUARY	270	4265	1916	876	.46	13.7
MARCH	505	3559	1711	692	.40	12.2
APRIL	383	2954	1472	520	.35	10.5
MAY	275	2376	1110	445	.40	7.9
JUNE	164	1687	624	334	.54	4.5
JULY	77	491	207	94	.46	1.5
AUGUST	42	378	106	58	.54	.8
SEPTEMBER	46	555	144	108	.75	1.0
ANNUAL	524	1822	1162	313	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-78

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	44	39	36	33	31
3	59	46	41	38	34	33
7	61	48	43	39	35	33
14	65	51	45	41	37	35
30	73	56	49	44	39	37
60	89	66	58	52	46	42
90	109	79	67	59	52	47
120	147	101	85	73	62	56
183	317	223	187	162	138	125

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1929-78

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9170	13600	20200	25000	31300	36300	41400
WEIGHTED SKEW = .045						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-78

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10900	15800	19000	23100	26100	29000
3	8590	12300	14600	17600	19700	21700
7	6510	8830	10100	11500	12500	13300
15	4770	6210	6920	7600	7990	8320
30	3710	4720	5200	5640	5880	6070
60	2880	3710	4180	4680	5010	5300
90	2580	3280	3670	4090	4370	4610

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-78

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3930	2710	2110	1770	1510	1300	974	699	445	244	177	136	106	83	66

## 14200300 SILVER CREEK AT SILVERTON, OR

LOCATION.--Lat 45°00'34", long 122°47'15", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to September 1968, October 1970 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 218.5 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several small diversions for irrigation and municipal use above station.

AVERAGE DISCHARGE.--14 years, 208 ft<sup>3</sup>/s, 58.97 in/yr, 150,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.15 ft; minimum, 2.0 ft<sup>3</sup>/s Aug. 20, 21, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1964-79

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.5	135	46	37	.80	1.9
NOVEMBER	40	937	274	234	.85	10.9
DECEMBER	37	973	498	276	.55	19.9
JANUARY	57	785	526	233	.44	21.0
FEBRUARY	85	614	336	157	.47	13.4
MARCH	105	584	324	150	.46	12.9
APRIL	106	411	226	86	.38	9.0
MAY	62	221	136	51	.37	5.4
JUNE	26	115	64	29	.45	2.6
JULY	10	45	25	9.9	.40	1.0
AUGUST	4.0	59	17	14	.86	.7
SEPTEMBER	5.4	82	31	26	.85	1.2
ANNUAL	97	368	208	68	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-79

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	5.8	3.9	3.1	2.6	--	--
3	6.1	4.1	3.3	2.8	--	--
7	6.6	4.4	3.6	3.0	--	--
14	7.6	5.0	4.0	3.3	--	--
30	9.3	6.0	4.7	3.8	--	--
60	12	7.4	5.8	4.7	--	--
90	15	9.5	7.4	6.1	--	--
120	20	14	11	9.6	--	--
183	39	28	24	21	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1964-79

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1900	2730	4000	4920	6180	--	--
WEIGHTED SKEW = .188						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-79

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1960	2830	3360	4000	--	--
3	1560	2210	2640	3190	--	--
7	1210	1610	1850	2140	--	--
15	937	1180	1310	1450	--	--
30	739	906	990	1080	--	--
60	562	731	834	956	--	--
90	488	637	732	851	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-79

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
776	528	405	324	269	227	161	105	63	35	27	20	14	11	7.0

## WILLAMETTE RIVER BASIN

14201000 PUDDING RIVER NEAR MOUNT ANGEL, OR

LOCATION.--Lat 45°03'47", long 122°49'45", in SE¼ sec.8, T.6 S., R.1 W., Marion County, Hydrologic Unit 17090009, on left bank on downstream side of Cline Bridge, 1.5 mi west of Mount Angel, 3.5 mi upstream from Little Pudding River, and at mile 40.4.

DRAINAGE AREA.--204 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to March 1966. Monthly discharge only January to September 1945, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 119.76 ft 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 diversions for irrigation above station.

AVERAGE DISCHARGE.--26 years (water years 1940-65), 711 ft<sup>3</sup>/s, 514,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 31.50 ft; maximum gage height, 31.63 ft Dec. 22, 1964; minimum discharge observed, 2.4 ft<sup>3</sup>/s Aug. 9, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-65

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	21	1121	254	274	1.08	3.0
NOVEMBER	41	2483	937	620	.66	10.9
DECEMBER	297	3401	1456	766	.53	17.0
JANUARY	461	3011	1531	805	.53	17.8
FEBRUARY	469	2961	1501	630	.42	17.5
MARCH	331	2192	1127	472	.42	13.1
APRIL	283	1750	845	372	.44	9.9
MAY	173	1135	538	263	.49	6.3
JUNE	78	514	237	107	.45	2.8
JULY	24	194	76	42	.54	.9
AUGUST	10	57	31	14	.44	.4
SEPTEMBER	12	150	44	31	.71	.5
ANNUAL	411	1041	711	150	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-65

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	9.9	8.0	6.6	5.4	--
3	16	10	8.4	7.1	5.8	--
7	17	11	9.3	7.9	6.6	--
14	18	13	10	9.1	7.9	--
30	21	14	12	10	8.6	--
60	29	22	18	16	14	--
90	37	27	22	20	17	--
120	58	40	33	28	23	--
183	157	113	95	82	69	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-65

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	15200	17800	--
WEIGHTED SKEW = -.059						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-65

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5580	7950	9400	11100	12300	--
3	4860	6640	7650	8760	9480	--
7	3920	5210	5890	6580	7010	--
15	3060	3860	4220	4530	4700	--
30	2390	2970	3240	3490	3630	--
60	1890	2380	2650	2930	3120	--
90	1690	2110	2330	2570	2720	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-65

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2590	1860	1430	1150	971	814	588	401	232	113	75	50	36	27	19

## 14201500 BUTTE CREEK AT MONITOR, OR

LOCATION.--Lat 45°06'06", long 122°44'42", in SE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January to December 1936, October 1940 to September 1952, October 1966 to September 1982. Monthly discharge only for January to December 1936, published is WSP 1318.

GAGE.--Water-stage recorder. Altitude 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Diversions for irrigation by pumping above station.

AVERAGE DISCHARGE.--28 years (water years 1941-52, 1967-82), 221 ft<sup>3</sup>/s, 51.13 in/yr, 160,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,310 ft<sup>3</sup>/s Jan. 21, 1972, gage height, 15.26 ft, from floodmark; minimum, 0.04 ft<sup>3</sup>/s July 23, 24, Aug. 26, 1982.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.3	485	90	106	1.18	3.4
NOVEMBER	28	779	298	201	.67	11.2
DECEMBER	30	942	488	219	.45	18.3
JANUARY	42	870	477	239	.50	17.9
FEBRUARY	49	977	431	206	.48	16.2
MARCH	97	593	320	131	.41	12.0
APRIL	76	430	252	88	.35	9.5
MAY	56	376	170	70	.41	6.4
JUNE	25	182	79	37	.46	3.0
JULY	5.1	73	26	15	.60	1.0
AUGUST	2.1	49	13	9.5	.75	.5
SEPTEMBER	3.3	72	21	18	.86	.8
ANNUAL	82	353	221	60	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, 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	4.1	2.1	1.4	.9	.6	--
3	4.8	2.5	1.7	1.2	.7	--
7	5.7	3.1	2.1	1.5	.9	--
14	6.5	3.8	2.7	2.0	1.3	--
30	8.0	4.8	3.5	2.6	1.8	--
60	11	6.3	4.6	3.4	2.4	--
90	15	8.7	6.5	5.0	3.6	--
120	21	13	10	8.1	6.2	--
183	51	37	31	26	21	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, 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%
2060	3190	4760	5780	7050	7970	--
WEIGHTED SKEW = -.305						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, 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	2460	3330	3800	4290	4590	--
3	1850	2560	2960	3410	3700	--
7	1420	1880	2100	2320	2440	--
15	992	1270	1400	1520	1590	--
30	761	941	1010	1070	1100	--
60	591	733	797	854	885	--
90	529	658	717	772	803	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
821	541	412	335	279	238	172	119	74	39	26	19	14	9.3	6.2



## WILLAMETTE RIVER BASIN

## 14202000 PUDDING RIVER AT AURORA, OR

LOCATION.--Lat 45°14'00", long 122°44'56", in SE¼ sec.12, T.4 S., R.1 W., Marion County, Hydrologic Unit 17090009, on upstream side of bridge on U.S. Highway 99E at Aurora, 0.9 mi upstream from Mill Creek, and at mile 8.1.

DRAINAGE AREA.--479 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1928 to September 1964.

GAGE.--Wire-weight gage read once daily. Datum of gage is 72.23 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1934, and June 1 to Sept. 30, 1961, staff or wire-weight gage at same site at datum 5.00 ft higher.

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 above station.

COOPERATION.--Gage-height record collected in cooperation with U.S. Weather Bureau.

AVERAGE DISCHARGE.--36 years, 1,217 ft<sup>3</sup>/s, 881,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,400 ft<sup>3</sup>/s Dec. 30, 1937, gage height, 29.5 ft, present datum, from graph based on gage readings, from rating curve extended above 16,000 ft<sup>3</sup>/s; minimum, 26 ft<sup>3</sup>/s Aug. 13, 14, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.0 ft, present datum, Jan. 7, 1923, discharge 27,900 ft<sup>3</sup>/s, from rating curve extended above 16,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-64

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	64	1774	340	360	1.06	2.3
NOVEMBER	79	4643	1387	1056	.76	9.4
DECEMBER	436	5704	2355	1365	.58	16.0
JANUARY	766	5722	2693	1428	.53	18.3
FEBRUARY	832	5600	2642	1225	.46	18.0
MARCH	599	4235	2094	879	.42	14.3
APRIL	456	3355	1563	745	.48	10.6
MAY	242	2192	881	435	.49	6.0
JUNE	158	1101	419	203	.48	2.9
JULY	67	364	151	67	.44	1.0
AUGUST	34	120	72	21	.29	.5
SEPTEMBER	41	213	91	41	.45	.6
ANNUAL	695	1980	1217	321	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-64

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	38	33	29	25	--
3	50	38	33	29	25	--
7	51	40	35	31	28	--
14	54	42	37	34	30	--
30	58	46	41	37	33	--
60	70	57	51	47	44	--
90	81	65	58	54	50	--
120	110	83	72	64	57	--
183	249	179	150	129	109	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1929-64

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5540	8070	12100	15200	19600	23200	--
WEIGHTED SKEW = .288						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-64

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7710	11400	14300	18300	21700	--
3	7270	10200	12200	14800	16800	--
7	6480	8500	9640	10900	11700	--
15	5340	6660	7280	7870	8190	--
30	4180	5260	5820	6390	6740	--
60	3200	4110	4650	5270	5700	--
90	2870	3660	4110	4630	4980	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-64

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4670	3410	2550	1980	1610	1350	943	630	373	185	131	102	82	69	56

## 14202500 TUALATIN RIVER NEAR GASTON, OR

LOCATION.--Lat 45°26'11", long 123°10'07", in SE¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to September 1956, October 1972 to September 1976, October 1978 to September 1982. October 1976 to September 1978 in reports of Oregon Water Resources Department. Prior to October 1973 published as "at Gaston."

GAGE.--Water-stage recorder. Altitude 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 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 above station. In 1949, city of Hillsboro began diverting about 5 ft<sup>3</sup>/s for municipal supply. Some water is diverted from Roaring Creek upstream for Forest Grove municipal supply.

AVERAGE DISCHARGE.--24 years (water years 1941-56, 1973-76, 1979-82), 197 ft<sup>3</sup>/s, 55.16 in/yr, 142,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft<sup>3</sup>/s Dec. 21, 1955, gage height, 13.18 ft, site and datum then in use; minimum, 0.20 ft<sup>3</sup>/s Sept. 22, 23, 1951, Aug. 14, 15, Sept. 25, Oct. 8, 1952.

## STATISTICAL SUMMARIES (BEFORE MUNICIPAL DIVERSIONS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-50

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	18	244	56	68	1.22	2.5
NOVEMBER	96	528	254	140	.55	11.2
DECEMBER	102	672	425	202	.48	18.8
JANUARY	138	542	351	131	.37	15.5
FEBRUARY	193	827	485	212	.44	21.4
MARCH	107	594	300	153	.51	13.3
APRIL	82	300	184	80	.44	8.1
MAY	48	239	102	54	.53	4.5
JUNE	33	64	49	11	.23	2.2
JULY	15	35	25	6.5	.26	1.1
AUGUST	8.9	21	16	4.0	.26	.7
SEPTEMBER	4.7	41	18	11	.61	.8
ANNUAL	119	239	187	46	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-50

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	2790	3700	4520	5560	--	--
WEIGHTED SKEW = .636						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-50

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2100	2660	3080	--	--	--
3	1570	1960	2210	--	--	--
7	1200	1510	1680	--	--	--
15	893	1120	1230	--	--	--
30	655	840	927	--	--	--
60	519	641	698	--	--	--
90	468	581	637	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-50

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
711	479	349	280	231	186	124	83	53	33	26	21	18	15	13

## WILLAMETTE RIVER BASIN

14202500 TUALATIN RIVER NEAR GASTON, OR--Continued

## STATISTICAL SUMMARIES (AFTER MUNICIPAL DIVERSIONS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1951-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.2	146	55	47	.85	2.2
NOVEMBER	8.5	642	236	194	.82	9.6
DECEMBER	168	843	488	211	.43	19.9
JANUARY	115	871	518	248	.48	21.1
FEBRUARY	140	842	436	166	.38	17.7
MARCH	134	677	336	133	.40	13.7
APRIL	110	374	217	81	.37	8.8
MAY	42	154	86	35	.40	3.5
JUNE	18	87	39	18	.45	1.6
JULY	9.5	32	18	5.9	.33	.7
AUGUST	2.5	37	14	8.9	.62	.6
SEPTEMBER	2.1	31	14	8.0	.56	.6
ANNUAL	117	315	204	62	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1952-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4.0	.9	.4	.2	--	--
3	4.2	1.1	.5	.2	--	--
7	5.0	1.6	.8	.4	--	--
14	6.5	2.6	1.4	.8	--	--
30	8.8	3.9	2.2	1.2	--	--
60	12	5.7	3.5	2.2	--	--
90	14	7.2	4.5	2.9	--	--
120	19	10	6.8	4.5	--	--
183	35	22	16	11	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1951-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1951-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2010	2570	2970	3510	--	--
3	1610	2050	2330	2680	--	--
7	1250	1510	1630	1750	--	--
15	925	1130	1230	1340	--	--
30	692	864	972	1110	--	--
60	549	718	826	959	--	--
90	498	652	745	855	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1951-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
793	543	408	337	276	223	142	86	44	27	22	18	14	11	6.4

## WILLAMETTE RIVER BASIN

121

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, Hydrologic Unit 17090010, on left bank 100 ft upstream from bridge on State Highway 47, 1.7 mi northwest of Gaston, and at mile 1.7.

DRAINAGE AREA.--43.3 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929. 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 above station. Diversions by pumping for irrigation above station. Part of domestic water supply for Hillsboro is diverted from Sain Creek above station.

AVERAGE DISCHARGE.--34 years, 143 ft<sup>3</sup>/s, 44.85 in/yr, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,320 ft<sup>3</sup>/s Dec. 21, 1955, gage height, 15.94 ft; minimum, 0.10 ft<sup>3</sup>/s Aug. 28, Sept. 30, Oct. 1, 3, 1958, Aug. 23, 24, 1961.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-74

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.2	139	27	27	1.00	1.6
NOVEMBER	11	432	155	111	.72	9.0
DECEMBER	51	655	322	157	.49	18.6
JANUARY	90	675	364	177	.49	21.1
FEBRUARY	115	660	333	140	.42	19.3
MARCH	74	499	259	118	.46	15.0
APRIL	54	269	144	59	.41	8.3
MAY	35	167	68	31	.46	3.9
JUNE	14	54	30	10	.34	1.7
JULY	4.1	23	13	4.7	.38	.7
AUGUST	1.0	15	6.4	3.3	.50	.4
SEPTEMBER	2.1	16	7.5	3.8	.50	.4
ANNUAL	72	225	143	36	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-74

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1.5	.5	.3	.2	.1	--
3	2.1	.9	.6	.4	.2	--
7	3.1	1.6	1.1	.8	.5	--
14	3.8	2.2	1.5	1.1	.7	--
30	4.6	2.7	2.0	1.5	1.1	--
60	5.7	3.6	2.8	2.3	1.8	--
90	7.1	4.8	3.8	3.2	2.5	--
120	9.5	6.7	5.5	4.6	3.8	--
183	20	15	13	11	9.3	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-74

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--
WEIGHTED SKEW = .641						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-74

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1460	1940	2290	2770	3150	--
3	1140	1490	1740	2100	2390	--
7	904	1130	1250	1400	1490	--
15	721	875	939	994	1020	--
30	539	654	706	753	778	--
60	425	530	583	636	668	--
90	375	464	508	551	577	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-74

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
576	394	288	223	180	148	95	58	32	18	13	9.8	7.6	5.3	3.5

## WILLAMETTE RIVER BASIN

## 14203500 TUALATIN RIVER NEAR DILLEY, OR

LOCATION.--Lat 45°28'30", long 123°07'23", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to September 1982. Prior to October 1940 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 147.57 ft 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 above station and regulation by Henry Hagg Lake since January 1975. Diversions above 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.--43 years, 401 ft<sup>3</sup>/s, 290,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 19.34 ft, from rating curve extended above 6,000 ft<sup>3</sup>/s; minimum, 0.08 ft<sup>3</sup>/s Sept. 3, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-74

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.5	353	80	75	.93	1.6
NOVEMBER	19	1709	441	355	.80	8.8
DECEMBER	156	2228	962	512	.53	19.2
JANUARY	277	2497	1069	564	.53	21.3
FEBRUARY	284	1922	989	404	.41	19.7
MARCH	219	1406	733	339	.46	14.6
APRIL	143	769	412	179	.43	8.2
MAY	88	437	185	88	.48	3.7
JUNE	39	132	76	25	.33	1.5
JULY	6.1	49	28	12	.44	.5
AUGUST	.9	40	16	9.3	.59	.3
SEPTEMBER	1.8	60	21	13	.63	.4
ANNUAL	216	839	417	117	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-74

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3.6	1.0	.5	.2	.1	--
3	5.0	1.7	.8	.5	.2	--
7	6.4	2.7	1.5	.9	.5	--
14	8.0	3.5	2.0	1.2	.7	--
30	10	4.6	2.7	1.6	.9	--
60	14	7.0	4.4	2.9	1.7	--
90	17	9.7	6.8	4.9	3.2	--
120	24	15	11	9.0	6.7	--
183	56	39	31	25	20	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-74

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--
WEIGHTED SKEW = .599						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-74

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4270	6050	7460	9500	11200	--
3	3340	4700	5830	7540	9060	--
7	2600	3580	4270	5200	5930	--
15	2090	2720	3040	3380	3580	--
30	1570	2010	2240	2480	2630	--
60	1230	1580	1790	2020	2170	--
90	1080	1390	1570	1770	1900	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-74

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1740	1140	852	659	536	428	275	157	86	46	33	24	18	13	6.9

## WILLAMETTE RIVER BASIN

123

## 14204000 GALES CREEK NEAR GALES CREEK, OR

LOCATION.--Lat 45°38'30", long 123°15'55", in NW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1935 to September 1945, October 1963 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 449.31 ft National Geodetic Vertical Datum of 1929. Prior to Feb. 3, 1964, nonrecording gage at same site and datum.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--17 years, 115 ft<sup>3</sup>/s, 47.04 in/yr, 83,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 8.63 ft; minimum, 1.7 ft<sup>3</sup>/s Sept. 28, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1936-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.0	54	19	12	.66	1.3
NOVEMBER	8.2	298	98	92	.94	7.1
DECEMBER	43	551	251	158	.63	18.1
JANUARY	59	614	312	161	.52	22.5
FEBRUARY	105	496	271	105	.39	19.5
MARCH	70	359	207	95	.46	14.9
APRIL	48	275	113	61	.54	8.1
MAY	23	107	55	20	.36	3.9
JUNE	16	52	29	11	.37	2.1
JULY	9.4	27	15	5.1	.34	1.1
AUGUST	4.5	15	9.2	3.1	.33	.7
SEPTEMBER	3.4	25	9.5	5.6	.59	.7
ANNUAL	71	167	115	25	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1937-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4.6	3.1	2.5	2.1	--	--
3	5.6	3.9	3.1	2.6	--	--
7	6.2	4.4	3.5	2.9	--	--
14	6.6	4.8	3.9	3.2	--	--
30	7.1	5.2	4.3	3.6	--	--
60	8.0	6.0	5.1	4.4	--	--
90	8.9	6.9	6.0	5.4	--	--
120	10	8.2	7.3	6.8	--	--
183	18	14	12	10	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1936-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	1970	2800	3400	4210	--	--
WEIGHTED SKEW = .213						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1936-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1580	2190	2560	2970	--	--
3	1210	1650	1920	2240	--	--
7	869	1140	1270	1410	--	--
15	650	820	890	947	--	--
30	467	569	613	653	--	--
60	373	437	460	477	--	--
90	325	379	397	411	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1936-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
448	295	221	173	136	111	70	46	28	17	14	11	9.0	7.9	6.3

## WILLAMETTE RIVER BASIN

14204500 GALES CREEK NEAR FOREST GROVE, OR

LOCATION.--Lat 45°33'20", long 123°11'10", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to September 1956, October 1970 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 201.81 ft 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 above station.

AVERAGE DISCHARGE.--27 years, 225 ft<sup>3</sup>/s, 46.23 in/yr, 163,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,410 ft<sup>3</sup>/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 ft<sup>3</sup>/s Aug. 19, 1947.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7.3	198	44	43	.97	1.6
NOVEMBER	18	718	245	186	.76	9.0
DECEMBER	27	1080	531	275	.52	19.5
JANUARY	27	1152	560	310	.55	20.6
FEBRUARY	62	1106	531	241	.45	19.5
MARCH	124	904	396	201	.51	14.6
APRIL	73	398	213	91	.43	7.8
MAY	45	252	99	43	.43	3.6
JUNE	29	82	47	13	.29	1.7
JULY	7.5	33	22	6.8	.31	.8
AUGUST	4.9	22	14	4.4	.31	.5
SEPTEMBER	6.8	31	16	6.1	.39	.6
ANNUAL	52	383	225	76	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	7.7	4.8	3.6	2.8	2.1	--
3	8.2	5.3	4.1	3.3	2.5	--
7	8.8	5.8	4.5	3.7	2.8	--
14	9.5	6.5	5.2	4.2	3.4	--
30	11	7.4	6.0	5.1	4.1	--
60	13	9.1	7.5	6.3	5.2	--
90	14	11	9.2	8.0	6.9	--
120	18	13	11	9.9	8.3	--
183	33	24	21	18	15	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--
WEIGHTED SKEW = -.165						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2500	3470	4040	4710	5170	--
3	1970	2720	3160	3670	4030	--
7	1510	1990	2240	2480	2620	--
15	1150	1460	1590	1700	1760	--
30	846	1080	1180	1280	1330	--
60	674	872	963	1050	1090	--
90	605	775	843	896	922	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
892	609	449	351	279	220	136	83	47	28	23	19	16	8.9

## 14205500 EAST FORK DAIRY CREEK AT MOUNTAINDALE, OR

LOCATION.--Lat 45°38'05", long 123°02'35", in NE¼NW¼ 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 mi<sup>2</sup>, 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records include measured or estimated discharge of two small streams which flow through dam site at station and enter creek from left bank about a mile below station. Diurnal fluctuation at low stages caused by logpond upstream. Probably some pumping for irrigation above station.

AVERAGE DISCHARGE.--11 years (water years 1941-51), 107 ft<sup>3</sup>/s, 77,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,420 ft<sup>3</sup>/s Feb. 17, 1949, gage height, 12.54 ft; minimum, 7 ft<sup>3</sup>/s Sept. 10-12, 1944.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-51

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	10	67	23	17	.71	1.8
NOVEMBER	26	179	103	61	.59	7.9
DECEMBER	33	325	206	104	.50	15.8
JANUARY	102	414	218	103	.47	16.7
FEBRUARY	94	584	306	140	.46	23.5
MARCH	63	436	191	108	.57	14.7
APRIL	51	198	110	51	.46	8.5
MAY	37	153	63	31	.49	4.8
JUNE	26	54	35	8.8	.25	2.7
JULY	15	27	20	4.1	.21	1.5
AUGUST	9.8	18	13	2.2	.16	1.0
SEPTEMBER	10.0	18	13	2.1	.17	1.0
ANNUAL	59	151	107	30	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-51

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	9.1	8.2	7.5	--	--
3	10	9.1	8.3	7.7	--	--
7	11	9.2	8.5	8.0	--	--
14	11	9.7	9.1	8.6	--	--
30	11	10	10.0	9.6	--	--
60	12	11	11	10	--	--
90	14	12	12	11	--	--
120	16	14	13	12	--	--
183	24	20	18	17	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-51

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
969	1130	1310	1410	--	--	--

WEIGHTED SKEW = -.141

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-51

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SEC- UTIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1070	1260	1310	--	--	--
3	865	1070	1150	--	--	--
7	679	840	896	--	--	--
15	507	672	748	--	--	--
30	362	501	585	--	--	--
60	303	395	443	--	--	--
90	270	349	389	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-51

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
408	277	207	160	128	107	74	51	34	22	19	15	14	13	11



## WILLAMETTE RIVER BASIN

14206000 MCKAY CREEK NEAR NORTH PLAINS, OR

LOCATION.--Lat 45°37'32", long 122°58'32", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to September 1943, October 1948 to September 1956.

GAGE.--Water-stage recorder. Datum of gage is 172.57 ft 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 above station.

AVERAGE DISCHARGE.--11 years (water years 1941-43, 1949-56), 70.7 ft<sup>3</sup>/s, 51,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft<sup>3</sup>/s Feb. 17, 1949, gage height, 11.23 ft; maximum gage height, 11.35 ft Dec. 21, 1955; minimum discharge, 0.4 ft<sup>3</sup>/s Aug. 17, 18, 22, 1951.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-56

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.3	29	10	8.5	.82	1.2
NOVEMBER	5.0	221	76	63	.83	8.9
DECEMBER	27	307	177	82	.46	20.7
JANUARY	56	318	176	85	.48	20.6
FEBRUARY	50	398	198	104	.53	23.1
MARCH	29	248	114	69	.60	13.3
APRIL	21	115	58	35	.61	6.7
MAY	12	43	24	9.5	.40	2.8
JUNE	6.3	23	12	5.6	.47	1.4
JULY	2.6	8.2	5.0	1.8	.36	.6
AUGUST	1.6	4.5	3.2	.9	.28	.4
SEPTEMBER	2.4	5.5	3.3	1.0	.29	.4
ANNUAL	36	110	71	19	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-56

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-56

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
737	936	1240	1450	--	--	--
WEIGHTED SKEW = .538						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-56

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	796	1040	1220	--	--	--
3	700	826	886	--	--	--
7	531	645	697	--	--	--
15	387	496	550	--	--	--
30	286	365	409	--	--	--
60	217	273	307	--	--	--
90	202	247	268	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-56

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
319	208	143	103	77	58	35	20	12	6.6	5.2	4.3	3.5	2.9	2.3

## WILLAMETTE RIVER BASIN

127

## 14206500 TUALATIN RIVER AT FARMINGTON, OR

LOCATION.--Lat 45°26'50", long 122°56'58", in SE¼SE¼ 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 mi<sup>2</sup>.

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 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 ft<sup>3</sup>/s, 981,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period October 1939 to September 1958, 24,200 ft<sup>3</sup>/s Dec. 22, 1955, gage height, 36.03 ft, from floodmark; no flow Aug. 4-7, Aug. 10 to Sept. 6, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1932, about 37 ft Dec. 22 or 23, 1933.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-58

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	35	791	212	194	.92	1.3
NOVEMBER	85	3177	1074	902	.84	6.5
DECEMBER	337	7425	2929	1876	.64	17.9
JANUARY	945	7017	3401	1866	.55	20.7
FEBRUARY	1453	6603	3944	1571	.40	24.0
MARCH	730	5172	2474	1244	.50	15.1
APRIL	478	3135	1357	673	.50	8.3
MAY	247	1544	565	299	.53	3.4
JUNE	134	422	243	75	.31	1.5
JULY	39	160	98	39	.40	.6
AUGUST	.8	99	50	24	.49	.3
SEPTEMBER	25	118	62	28	.45	.4
ANNUAL	651	2327	1355	416	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	8.9	5.8	--	--
3	30	15	9.4	6.1	--	--
7	32	16	11	7.0	--	--
14	35	20	13	9.5	--	--
30	40	24	18	13	--	--
60	52	35	27	21	--	--
90	64	43	34	27	--	--
120	85	60	48	38	--	--
183	168	122	100	84	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-58

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7050	10500	15100	18100	21800	--	--
WEIGHTED SKEW = -.275						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10300	14100	16000	18000	--	--
3	9610	12600	14000	15300	--	--
7	8280	10500	11500	12300	--	--
15	6800	8550	9280	9890	--	--
30	5260	6830	7640	8460	--	--
60	4160	5440	6150	6930	--	--
90	3730	4860	5450	6050	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-58

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5760	4090	3040	2340	1830	1410	796	433	240	138	101	79	64	51	32

## WILLAMETTE RIVER BASIN

14207500 TUALATIN RIVER AT WEST LINN, OR

LOCATION.--Lat 45°21'03", long 122°40'30", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1928 to September 1982. Prior to October 1960, published as "near Willamette."

GAGE.--Water-stage recorder. Datum of gage is 85.61 ft 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 of Oswego Canal. October 1971 to September 1982, maximum and average discharge only include flow in Oswego Canal. Oswego Canal diverts at point 5.0 mi above 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 above station for irrigation.

AVERAGE DISCHARGE.--54 years, 1,530 ft<sup>3</sup>/s, 29.43 in/yr, 1,108,000 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft<sup>3</sup>/s Dec. 23, 1933, gage height, 17.72 ft; minimum daily, 0.20 ft<sup>3</sup>/s July 30 to Aug. 2, 1966.

## STATISTICAL SUMMARIES NOT ADJUSTED FOR DIVERSION

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-51

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	24	859	140	181	1.29	.9
NOVEMBER	40	4121	1074	1076	1.00	6.5
DECEMBER	272	7685	2843	2080	.73	17.3
JANUARY	669	6459	3524	1898	.54	21.5
FEBRUARY	1080	7092	3574	1558	.44	21.8
MARCH	740	5382	2622	1276	.49	16.0
APRIL	506	3642	1593	917	.58	9.7
MAY	175	1868	627	342	.55	3.8
JUNE	100	587	259	114	.44	1.6
JULY	23	214	84	48	.58	.5
AUGUST	7.7	63	26	15	.58	.2
SEPTEMBER	8.5	92	33	26	.79	.2
ANNUAL	671	2046	1356	453	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-51

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.9	5.3	4.1	3.3	--	--
3	9.1	5.6	4.4	3.7	--	--
7	10	6.5	5.2	4.4	--	--
14	12	7.6	6.2	5.4	--	--
30	15	9.5	7.9	6.9	--	--
60	22	15	13	11	--	--
90	29	21	18	16	--	--
120	45	33	28	25	--	--
183	137	94	76	62	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1929-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7000	10000	14700	18000	22600	--	--
WEIGHTED SKEW = .176						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-51

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	9100	13400	16400	20500	--	--
3	8830	12800	15500	19100	--	--
7	8160	11300	13300	15800	--	--
15	6910	9100	10300	11600	--	--
30	5410	6930	7720	8540	--	--
60	4230	5440	6060	6690	--	--
90	3780	4910	5480	6040	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-51

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5750	4200	3200	2410	1810	1380	803	433	219	98	63	43	32	21	13

## WILLAMETTE RIVER BASIN

14207500 TUALATIN RIVER AT WEST LINN, OR--Continued

## STATISTICAL SUMMARIES ADJUSTED FOR DIVERSION

## MONTHLY AND ANNUAL MEAN DISCHARGES 1952-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.2	574	178	169	.95	1.0
NOVEMBER	87	3229	1064	880	.83	5.8
DECEMBER	629	8476	3199	2033	.64	17.3
JANUARY	1067	7802	4354	2180	.50	23.5
FEBRUARY	1942	7410	4239	1587	.37	22.9
MARCH	990	6400	2812	1348	.48	15.2
APRIL	450	3968	1619	818	.51	8.8
MAY	276	1565	691	383	.55	3.7
JUNE	63	497	247	132	.53	1.3
JULY	4.6	137	52	40	.78	.3
AUGUST	2.0	98	14	22	1.57	.1
SEPTEMBER	3.9	155	30	36	1.19	.2
ANNUAL	1045	2538	1530	348	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1953-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.9	1.2	.7	.4	--	--
3	3.1	1.3	.7	.5	--	--
7	3.4	1.5	.9	.6	--	--
14	3.9	1.9	1.3	.9	--	--
30	5.2	2.8	2.1	1.7	--	--
60	8.6	4.7	3.6	3.0	--	--
90	15	7.3	5.1	3.9	--	--
120	31	16	11	8.7	--	--
183	134	83	64	51	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1952-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10100	13400	15600	18100	--	--
3	9810	13000	14900	17200	--	--
7	9060	11500	12900	14400	--	--
15	7790	9700	10600	11600	--	--
30	6380	7890	8630	9370	--	--
60	4940	6320	7080	7920	--	--
90	4300	5350	5930	6550	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1952-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
6550	4820	3550	2740	2140	1660	970	522	251	97	48	23	12	7.6	4.3

## WILLAMETTE RIVER BASIN

## 14208000 CLACKAMAS RIVER AT BIG BOTTOM, OR

LOCATION.--Lat 45°01'00", long 121°55'10", in NW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1920 to September 1970. Monthly discharge only April 1920 published in WSP 1318.

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--50 years, 477 ft<sup>3</sup>/s, 47.63 in/yr, 345,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 10.55 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 184 ft<sup>3</sup>/s Sept. 12, 1942.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1921-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	208	578	296	83	.28	5.2
NOVEMBER	208	976	465	200	.43	8.1
DECEMBER	225	1509	591	282	.48	10.3
JANUARY	245	1445	601	294	.49	10.5
FEBRUARY	250	1241	587	241	.41	10.2
MARCH	331	896	516	143	.28	9.0
APRIL	316	1111	628	168	.27	11.0
MAY	298	1353	708	229	.32	12.4
JUNE	243	1175	518	226	.44	9.0
JULY	207	488	303	61	.20	5.3
AUGUST	192	334	260	34	.13	4.5
SEPTEMBER	190	315	254	30	.12	4.4
ANNUAL	302	699	477	91	.19	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1922-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	239	216	204	195	185	178
3	240	217	205	196	186	179
7	242	218	206	197	187	180
14	244	220	208	198	187	180
30	248	223	211	201	190	182
60	252	226	214	203	192	185
90	256	229	216	205	194	187
120	263	233	220	210	199	192
183	306	260	242	229	217	210

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1921-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1910	3010	4750	6030	7780	9180	10600
WEIGHTED SKEW = .004						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1921-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2430	3690	4590	5780	6710	7670
3	1950	2920	3630	4590	5350	6160
7	1550	2180	2610	3150	3550	3960
15	1250	1640	1870	2130	2310	2480
30	1040	1270	1390	1510	1590	1650
60	854	1020	1100	1190	1240	1290
90	759	895	962	1030	1070	1100

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1921-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1040	841	728	641	573	517	433	371	322	288	275	262	250	237	221

## WILLAMETTE RIVER BASIN

131

14208500 OAK GROVE FORK AT TIMOTHY MEADOWS, OR

LOCATION.--Lat 45°07'00", long 121°48'00", in SW¼ 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 mi<sup>2</sup>, 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 National Geodetic Vertical Datum of 1929 (from levels to approximate gage datum).

REMARKS.--No diversion above station. No regulation except natural storage in Clackamas Lake and in meadows above station.

AVERAGE DISCHARGE.--16 years (water years 1914-29), 188 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 970 ft<sup>3</sup>/s Jan. 7, 1923, gage height, 3.20 ft, from rating curve extended above 460 ft<sup>3</sup>/s; minimum, 90 ft<sup>3</sup>/s Oct. 18-26, 28-31, Nov. 1-5, 1926.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1914-28

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	94	160	133	20	.15	5.7
NOVEMBER	120	239	158	38	.24	6.8
DECEMBER	121	350	190	67	.35	8.2
JANUARY	123	329	200	66	.33	8.6
FEBRUARY	158	330	200	48	.24	8.6
MARCH	147	291	196	37	.19	8.4
APRIL	171	335	241	50	.21	10.4
MAY	143	388	289	79	.27	12.4
JUNE	121	540	256	118	.46	11.0
JULY	110	281	173	46	.27	7.4
AUGUST	103	185	147	23	.15	6.3
SEPTEMBER	100	170	141	21	.15	6.1
ANNUAL	137	232	193	28	.15	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1917-28

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	122	107	99	93	--	--
3	123	108	100	93	--	--
7	124	108	100	93	--	--
14	125	109	101	94	--	--
30	128	112	103	96	--	--
60	133	116	106	99	--	--
90	137	119	109	101	--	--
120	140	122	112	103	--	--
183	152	129	118	109	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1914-28

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
352	505	722	870	1060	--	--

WEIGHTED SKEW = -.033

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1914-28

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	483	684	819	990	--	--
3	451	630	749	899	--	--
7	412	545	625	718	--	--
15	368	471	533	605	--	--
30	332	416	466	524	--	--
60	302	369	406	449	--	--
90	277	332	363	399	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1914-28

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
356	299	267	238	222	207	181	168	159	149	144	139	132	124	113

## WILLAMETTE RIVER BASIN

14208700 OAK GROVE FORK NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°06'50", long 121°48'50", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1956 to September 1982.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 3,041.83 ft National Geodetic Vertical Datum of 1929 (Portland General Electric Co. bench mark).

REMARKS.--Flow regulated since 1956 by Timothy Lake. No diversion above station.

AVERAGE DISCHARGE.--26 years, 130 ft<sup>3</sup>/s, 32.45 in/yr, 94,180 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 3.93 ft, from rating curve extended above 290 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 3.7 ft<sup>3</sup>/s Sept. 23, 1968.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	42	274	154	68	.44	10.0
NOVEMBER	87	337	179	64	.36	11.6
DECEMBER	68	274	152	49	.32	9.8
JANUARY	45	343	164	73	.45	10.6
FEBRUARY	43	333	150	79	.53	9.7
MARCH	31	452	158	96	.60	10.2
APRIL	35	275	111	77	.70	7.2
MAY	33	364	127	95	.75	8.2
JUNE	32	301	108	79	.73	7.0
JULY	31	168	71	40	.56	4.6
AUGUST	33	134	67	32	.48	4.3
SEPTEMBER	33	237	107	64	.60	6.9
ANNUAL	79	222	129	37	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	40	33	29	25	22	--
14	39	34	32	30	29	--
30	41	34	32	30	29	--
60	48	36	32	29	27	--
90	54	39	33	30	27	--
120	60	41	34	29	25	--
183	78	52	42	36	29	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-82

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

341      467      676      840      1080      1290      --

WEIGHTED SKEW = .599

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	357	501	638	872	1100	--
3	347	463	559	704	833	--
7	328	415	479	568	640	--
15	306	369	413	471	517	--
30	271	329	369	422	462	--
60	230	283	316	358	389	--
90	204	251	283	324	356	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
324	281	249	223	196	174	132	93	61	49	46	43	40	37	35

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1909 to September 1982. 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.

GAGE.--Water-stage recorder. Datum of gage is 2,052.31 ft 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. No diversion above station.

AVERAGE DISCHARGE.--73 years, 500 ft<sup>3</sup>/s, 362,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft<sup>3</sup>/s Jan. 7, 1923, gage height, 5.45 ft, site and datum then in use, from rating curve extended above 2,300 ft<sup>3</sup>/s on basis of peak discharge for other stations in Clackamas River basin; minimum, 208 ft<sup>3</sup>/s Aug. 28-31, 1979.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF TIMOTHY LAKE OUTLET STRUCTURE)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1910-55

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	252	478	343	57	.17	5.8
NOVEMBER	263	811	431	132	.31	7.2
DECEMBER	268	1047	514	187	.36	8.6
JANUARY	271	1199	533	211	.40	8.9
FEBRUARY	281	981	526	168	.32	8.8
MARCH	357	1048	541	143	.26	9.1
APRIL	348	1020	659	146	.22	11.0
MAY	389	1331	760	222	.29	12.7
JUNE	316	1109	578	195	.34	9.7
JULY	263	557	395	68	.17	6.6
AUGUST	252	432	349	47	.13	5.9
SEPTEMBER	259	460	335	44	.13	5.6
ANNUAL	325	672	495	83	.17	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1911-55

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	305	273	257	244	230	220
3	306	274	258	245	230	221
7	308	276	260	246	232	222
14	310	278	261	248	233	224
30	315	282	266	252	238	228
60	321	287	271	257	243	234
90	327	292	274	260	245	236
120	334	296	278	264	249	240
183	360	314	294	280	265	256

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1910-55

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1160	1640	2410	2970	3760	4400	5090
WEIGHTED SKEW = .297						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1910-55

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1480	2150	2660	3380	3960	4600
3	1320	1890	2300	2880	3360	3860
7	1160	1550	1820	2150	2400	2660
15	1030	1280	1420	1570	1670	1760
30	933	1100	1180	1250	1290	1320
60	821	950	1000	1050	1070	1090
90	736	848	898	943	968	988

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1910-55

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
950	804	714	635	573	527	466	417	385	360	347	332	317	302	280



## WILLAMETTE RIVER BASIN

14209000 OAK GROVE FORK ABOVE POWERPLANT INTAKE, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF TIMOTHY LAKE OUTLET STRUCTURE)

MONTHLY AND ANNUAL MEAN DISCHARGES 1957-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	236	517	399	76	.19	6.9
NOVEMBER	359	613	493	71	.14	8.5
DECEMBER	325	1047	585	142	.24	10.1
JANUARY	255	1036	599	154	.26	10.3
FEBRUARY	250	959	584	149	.26	10.1
MARCH	327	1377	550	194	.35	9.5
APRIL	311	825	548	122	.22	9.5
MAY	292	1104	603	224	.37	10.4
JUNE	265	1126	459	191	.42	7.9
JULY	241	517	329	71	.22	5.7
AUGUST	225	429	303	52	.17	5.2
SEPTEMBER	247	517	340	75	.22	5.9
ANNUAL	335	709	482	88	.18	100

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	256	233	224	217	210	--
3	260	237	227	219	211	--
7	262	239	229	222	215	--
14	266	240	230	224	218	--
30	272	245	234	227	221	--
60	281	253	242	235	229	--
90	296	263	251	242	234	--
120	312	275	260	250	241	--
183	356	316	298	286	274	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1350	1990	2460	3090	3580	--
3	1170	1710	2130	2720	3200	--
7	996	1400	1710	2140	2490	--
15	851	1120	1320	1580	1790	--
30	739	934	1080	1280	1430	--
60	662	814	926	1080	1210	--
90	621	749	842	971	1080	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
834	682	614	581	562	544	514	477	407	349	327	306	287	272	255

## 14209500 CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OR

LOCATION.--Lat 45°07'30", long 122°04'20", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1909 to December 1913, October 1921 to September 1982. Prior to October 1911 (monthly discharge only), published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,091.69 ft 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.

AVERAGE DISCHARGE.--65 years, 1,988 ft<sup>3</sup>/s, 56.36 in/yr, 1,440,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 21.7 ft, from floodmark, from rating curve extended above 34,100 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 15.06 ft; minimum recorded, 292 ft<sup>3</sup>/s Sept. 25, 1980; minimum daily, 427 ft<sup>3</sup>/s Oct. 5, 1958.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	605	2511	1028	407	.40	4.3
NOVEMBER	573	4347	2118	1059	.50	8.8
DECEMBER	786	8271	2924	1510	.52	12.2
JANUARY	739	7157	2897	1482	.51	12.1
FEBRUARY	734	6205	2748	1224	.45	11.5
MARCH	1313	6559	2373	842	.35	9.9
APRIL	1180	4477	2644	739	.28	11.0
MAY	1065	5548	2797	981	.35	11.7
JUNE	725	4879	1896	923	.49	7.9
JULY	603	1778	980	256	.26	4.1
AUGUST	600	987	768	103	.13	3.2
SEPTEMBER	577	1242	775	125	.16	3.2
ANNUAL	1062	3128	1992	427	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1913-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	628	556	519	490	457	435
3	654	596	569	548	525	511
7	667	607	579	557	534	520
14	679	617	588	566	543	528
30	695	630	600	577	553	538
60	723	651	619	595	570	554
90	755	675	639	612	585	569
120	803	706	668	640	614	600
183	1050	869	801	753	709	684

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
11500	17400	25300	30400	36600	41000	45300
WEIGHTED SKEW = -.310						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	14100	20700	24800	29700	33200	36500
3	10700	15800	19200	23700	27100	30600
7	7940	11100	13200	15800	17600	19400
15	5970	7950	9170	10600	11600	12600
30	4790	6060	6770	7550	8070	8530
60	3850	4740	5240	5790	6150	6480
90	3450	4170	4560	4980	5250	5490

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4830	3760	3200	2820	2510	2240	1810	1490	1200	953	866	809	752	702	652

## WILLAMETTE RIVER BASIN

## 14210000 CLACKAMAS RIVER AT ESTACADA, OR

LOCATION.--Lat 45°18'00", long 122°21'10", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1908 to September 1982. Monthly discharge only April 1908, published in WSP 1318. Published as "near Cazadero" January 1909 to September 1957.

GAGE.--Water-stage recorder. Datum of gage is 296.93 ft 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. Two small diversions above station for Oregon City and Estacada municipal water supply.

AVERAGE DISCHARGE.--74 years, 2,747 ft<sup>3</sup>/s, 55.59 in/yr, 1,990,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.36 ft; minimum, 50 ft<sup>3</sup>/s Mar. 10, 1961, from rating curve extended below 260 ft<sup>3</sup>/s; minimum daily, 285 ft<sup>3</sup>/s Oct. 4, 5, 1958, caused by filling of North Fork dam forebay.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF NORTH FORK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1909-57

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	701	3776	1348	690	.51	4.2
NOVEMBER	702	8708	3086	1805	.58	9.6
DECEMBER	1083	10450	3812	2093	.55	11.8
JANUARY	999	9656	3868	2019	.52	12.0
FEBRUARY	1363	6709	3633	1525	.42	11.2
MARCH	1656	6257	3417	1205	.35	10.6
APRIL	1539	6028	3726	1005	.27	11.5
MAY	1363	7486	3674	1255	.34	11.4
JUNE	927	6103	2560	1275	.50	7.9
JULY	720	3301	1313	488	.37	4.1
AUGUST	694	1457	935	160	.17	2.9
SEPTEMBER	669	1993	939	232	.25	2.9
ANNUAL	1662	3916	2687	576	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1910-57

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	773	686	642	607	568	543
3	785	701	659	625	588	564
7	794	707	664	630	592	568
14	809	719	674	637	598	572
30	834	738	691	653	613	586
60	873	766	715	675	632	605
90	922	798	741	697	651	623
120	999	841	775	726	679	650
183	1390	1100	977	891	807	757

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1909-57

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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
WEIGHTED SKEW = -.213						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1909-57

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19600	29200	35500	43300	48900	54300
3	14800	22000	26900	33200	38000	42900
7	11000	15400	18200	21500	24000	26300
15	8200	11100	13000	15300	17000	18600
30	6550	8480	9610	10900	11800	12600
60	5260	6550	7290	8130	8690	9200
90	4720	5770	6350	6980	7400	7780

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1909-57

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
6680	5170	4440	3910	3450	3080	2450	1980	1560	1190	1070	989	911	839	755

## 14210000 CLACKAMAS RIVER AT ESTACADA, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF NORTH FORK DAM)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	767	2712	1391	537	.39	4.0
NOVEMBER	1268	6263	3163	1488	.47	9.2
DECEMBER	1030	11170	4894	2398	.49	14.2
JANUARY	1036	8821	4766	2205	.46	13.8
FEBRUARY	977	8938	4207	1972	.47	12.2
MARCH	2210	8921	3524	1429	.41	10.2
APRIL	1867	5177	3515	941	.27	10.2
MAY	1796	6396	3660	1198	.33	10.6
JUNE	1222	5143	2293	952	.42	6.7
JULY	820	2018	1157	301	.26	3.4
AUGUST	701	1208	899	142	.16	2.6
SEPTEMBER	714	1602	994	198	.20	2.9
ANNUAL	1454	4407	2866	646	.23	100

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	550	393	325	275	--	--
3	654	535	477	432	--	--
7	728	643	605	575	--	--
14	765	687	654	630	--	--
30	805	725	691	665	--	--
60	865	774	733	702	--	--
90	930	831	783	746	--	--
120	1010	900	850	812	--	--
183	1410	1210	1120	1060	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23200	34200	40300	46600	--	--
3	17800	26300	31600	37700	--	--
7	13200	18500	21600	25000	--	--
15	9420	12400	14000	15700	--	--
30	7240	9120	10100	11200	--	--
60	5750	7200	8050	9030	--	--
90	5170	6380	7090	7900	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7370	5470	4530	3980	3550	3220	2660	2180	1700	1230	1100	992	906	819	727

## WILLAMETTE RIVER BASIN

## 14211000 CLACKAMAS RIVER NEAR CLACKAMAS, OR

LOCATION.--Lat 45°23'36", long 122°31'54", in NE¼SW¼ 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 AREA.--930 mi<sup>2</sup> at gage, 936 mi<sup>2</sup> at Gladstone Bridge 3.6 mi downstream, where high-flow discharge measurements are made.

PERIOD OF RECORD.--September 1911 to April 1912 (published as "at Park Place"), October 1962 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 50.68 ft 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 above station for Estacada municipal water supply. All records given herein are for gage site.

AVERAGE DISCHARGE.--20 years, 3,636 ft<sup>3</sup>/s, 53.09 in/yr, 2,634,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 27.0 ft, from floodmarks; minimum, 336 ft<sup>3</sup>/s Sept. 1, 11, 1969.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1963-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	820	3501	1580	704	.45	3.6
NOVEMBER	1349	8410	3890	2068	.53	8.9
DECEMBER	1113	15290	6867	3329	.48	15.7
JANUARY	1187	12230	6957	3147	.45	15.9
FEBRUARY	1118	11250	5390	2366	.44	12.3
MARCH	2566	11410	4502	1984	.44	10.3
APRIL	2137	6493	4283	1148	.27	9.8
MAY	2219	6785	4246	1403	.33	9.7
JUNE	1446	5716	2680	1179	.44	6.1
JULY	854	2187	1304	345	.26	3.0
AUGUST	711	1285	989	181	.18	2.3
SEPTEMBER	689	1378	1060	193	.18	2.4
ANNUAL	1715	5718	3640	912	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1964-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	669	550	494	451	--	--
3	741	637	584	542	--	--
7	777	683	639	604	--	--
14	817	724	678	642	--	--
30	865	765	716	677	--	--
60	936	829	777	736	--	--
90	1000	888	832	788	--	--
120	1100	976	924	885	--	--
183	1580	1340	1230	1160	--	--

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

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

-- -- -- -- --

WEIGHTED SKEW = --

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	32000	45200	51900	58400	--	--
3	25100	36700	43700	51600	--	--
7	19100	26200	29700	33100	--	--
15	13700	17400	19000	20400	--	--
30	10300	12600	13600	14300	--	--
60	7860	9940	11100	12300	--	--
90	6980	8740	9730	10800	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1963-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
10000	7130	5910	5170	4550	4060	3250	2620	1980	1390	1230	1100	991	906	804

## 14211500 JOHNSON CREEK AT SYCAMORE, OR

LOCATION.--Lat 45°28'40", long 122°30'24", in lot 2, SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1940 to September 1982.

GAGE.--Water-stage recorder and V-notch weir. Datum of gage is 228.47 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Slight diurnal fluctuation at low flow caused by recreational ponds upstream. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--42 years, 54.6 ft<sup>3</sup>/s, 26.29 in/yr, 39,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 14.68 ft; minimum, 0.08 ft<sup>3</sup>/s Aug. 21, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1941-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.3	65	10	15	1.48	1.6
NOVEMBER	1.6	239	71	63	.88	10.8
DECEMBER	4.3	302	135	73	.54	20.5
JANUARY	9.0	308	148	84	.57	22.5
FEBRUARY	16	320	119	62	.52	18.1
MARCH	20	196	87	44	.50	13.2
APRIL	9.5	130	48	30	.63	7.2
MAY	3.3	90	25	23	.93	3.7
JUNE	1.5	53	9.3	9.9	1.06	1.4
JULY	.6	7.1	2.3	1.3	.57	.3
AUGUST	.4	8.0	1.8	1.5	.82	.3
SEPTEMBER	.6	11	2.8	2.8	1.01	.4
ANNUAL	16	91	55	16	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.6	.3	.2	.2	.1	.1
3	.6	.4	.3	.2	.1	.1
7	.7	.4	.3	.2	.2	.1
14	.8	.5	.3	.3	.2	.2
30	.9	.6	.4	.4	.3	.2
60	1.2	.8	.6	.5	.5	.4
90	1.5	1.0	.8	.7	.6	.6
120	2.1	1.4	1.1	.9	.8	.7
183	5.1	3.1	2.3	1.9	1.4	1.2

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
799	1250	1860	2250	2720	3050	3370
WEIGHTED SKEW = -.405						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	919	1330	1550	1780	1930	2050
3	640	870	984	1090	1160	1210
7	443	591	662	730	768	799
15	308	409	460	511	541	566
30	233	296	324	349	362	372
60	176	226	250	271	283	292
90	154	196	214	231	240	246

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
247	151	107	79	60	45	26	14	6.0	3.2	2.4	1.9	1.5	1.1	.7

LOCATION.--Lat 45°31'07", long 122°40'00", in NW¼NE¼ 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.

PERIOD OF RECORD.--October 1972 to September 1982. Gage-height records collected in this vicinity since 1879 are in reports of the National Weather Service.

REMARKS.--Flow regulated by many resevoirs upstream. Many diversions for irrigation above station.

AVERAGE DISCHARGE.--10 years, 32,760 ft<sup>3</sup>/s, 23,730,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 283,000 ft<sup>3</sup>/s Jan. 18, 1974, gage height, 23.84 ft; minimum daily discharge, 4,200 ft<sup>3</sup>/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.

## MONTHLY AND ANNUAL MEAN DISCHARGES 1973-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1974-82

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1973-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, 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	170000	229000	256000	--	--	--
3	165000	222000	248000	--	--	--
7	153000	196000	212000	--	--	--
15	127000	154000	162000	--	--	--
30	105000	127000	133000	--	--	--
60	81700	108000	119000	--	--	--
90	69900	96700	110000	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1973-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
112000	81900	60400	46900	38700	32700	25100	19300	15500	12700	11500	10200	9160	8270	7260

BEAR CREEK BASIN

141

14248700 BEAR CREEK NEAR SVENSEN, OR

LOCATION.--Lat 46°06'48", long 123°37'55", in NE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1965 to September 1975.

GAGE.--Water-stage recorder. Altitude of gage is 700 ft, from topographic map.

REMARKS.--Flow regulated by Wickiup Lake and Middle Lake. No diversions above station.

AVERAGE DISCHARGE.--10 years (water years 1966-75), 17.9 ft<sup>3</sup>/s, 73.00 in/yr, 12,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 342 ft<sup>3</sup>/s Jan. 11, 1972, gage height, 3.42 ft; minimum, 1.2 ft<sup>3</sup>/s Sept. 8, 9, 1967.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1966-75

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.0	12	7.5	2.2	.29	3.5
NOVEMBER	7.9	34	16	8.5	.53	7.5
DECEMBER	16	49	34	12	.34	15.8
JANUARY	26	69	45	14	.31	20.7
FEBRUARY	17	39	30	6.2	.20	14.2
MARCH	14	47	27	10.0	.37	12.6
APRIL	11	29	19	5.6	.30	8.7
MAY	8.8	17	12	2.7	.23	5.4
JUNE	6.3	15	8.9	3.1	.34	4.2
JULY	3.6	8.7	5.9	1.5	.25	2.7
AUGUST	4.0	6.8	4.9	.9	.18	2.3
SEPTEMBER	1.6	9.1	5.3	1.8	.34	2.5
ANNUAL	12	24	18	4.2	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-75

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1966-75

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
106	145	206	250	--	--	--
WEIGHTED SKEW = 0.378						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1966-75

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	107	152	187	--	--	--
3	86	116	137	--	--	--
7	70	91	105	--	--	--
15	59	76	87	--	--	--
30	48	60	67	--	--	--
60	41	51	57	--	--	--
90	37	46	51	--	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1966-75

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
53	40	34	29	25	21	16	12	8.9	6.8	6.2	5.6	5.0	4.5	3.8



## YOUNGS RIVER BASIN

14251500 YOUNGS RIVER NEAR ASTORIA, OR

LOCATION.--Lat 46°04'02", long 123°47'20", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1927 to September 1958.

GAGE.--Water-stage recorder. Datum of gage is 63.27 ft 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 above station for domestic use below station since 1941.

AVERAGE DISCHARGE.--31 years (water years 1928-58), 178 ft<sup>3</sup>/s, 128,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft<sup>3</sup>/s Feb. 10, 1949, gage height, 13.66 ft, from rating curve extended above 2,300 ft<sup>3</sup>/s; minimum, 3.3 ft<sup>3</sup>/s Sept. 22, 1951.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF THE DIVERSION STRUCTURE)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1928-41

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.2	234	81	80	.99	4.0
NOVEMBER	7.9	638	258	212	.82	12.8
DECEMBER	168	1159	381	260	.68	19.0
JANUARY	148	611	356	145	.41	17.7
FEBRUARY	100	588	305	162	.53	15.2
MARCH	88	430	279	111	.40	13.9
APRIL	44	348	177	105	.59	8.8
MAY	22	153	83	41	.49	4.1
JUNE	18	95	46	28	.61	2.3
JULY	8.7	35	18	7.2	.40	.9
AUGUST	5.7	14	9.0	2.6	.29	.4
SEPTEMBER	4.9	63	17	17	.99	.9
ANNUAL	102	233	167	43	.26	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1929-41

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	5.3	4.4	3.9	3.6	--	--
3	5.4	4.4	4.0	3.7	--	--
7	5.5	4.6	4.2	3.9	--	--
14	5.9	4.9	4.4	4.1	--	--
30	6.5	5.5	5.1	4.9	--	--
60	8.2	6.6	5.9	5.3	--	--
90	10	7.9	6.9	6.2	--	--
120	13	9.4	8.2	7.5	--	--
183	27	21	19	18	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1928-58

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

2430 2950 3600 4000 4470 -- --

WEIGHTED SKEW = .035

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1928-41

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2180	3040	3470	3900	--	--
3	1530	2020	2260	2470	--	--
7	1000	1330	1510	1690	--	--
15	751	998	1140	1290	--	--
30	553	751	881	1050	--	--
60	437	582	675	790	--	--
90	399	507	565	626	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1928-41

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
660	437	330	253	199	156	108	73	43	23	17	12	9.7	8.0	6.5

## 14251500 YOUNGS RIVER NEAR ASTORIA, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF THE DIVERSION STRUCTURE)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1942-58

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.8	280	109	89	.82	4.8
NOVEMBER	21	598	291	141	.48	12.8
DECEMBER	115	746	433	154	.36	19.1
JANUARY	130	879	405	207	.51	17.9
FEBRUARY	187	716	412	132	.32	18.2
MARCH	143	605	276	125	.45	12.2
APRIL	71	332	178	80	.45	7.9
MAY	27	184	73	40	.55	3.2
JUNE	16	96	44	20	.46	1.9
JULY	8.1	50	22	13	.58	1.0
AUGUST	5.0	21	11	4.5	.41	.5
SEPTEMBER	5.9	31	13	7.7	.57	.6
ANNUAL	116	293	188	40	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1943-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	5.9	4.5	4.0	3.6	--	--
3	6.0	4.6	4.1	3.7	--	--
7	6.2	4.8	4.2	3.8	--	--
14	6.6	5.1	4.5	4.1	--	--
30	7.5	5.7	5.0	4.5	--	--
60	9.5	7.0	6.0	5.3	--	--
90	12	8.4	7.1	6.3	--	--
120	17	11	9.2	7.6	--	--
183	35	25	20	17	--	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1942-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1900	2340	2620	2960	--	--
3	1400	1720	1930	2180	--	--
7	1050	1280	1410	1560	--	--
15	777	960	1060	1170	--	--
30	611	766	844	922	--	--
60	477	602	677	764	--	--
90	460	561	612	666	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1942-58

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
740	519	391	293	234	184	122	81	51	29	21	15	11	8.4	6.5

## PACIFIC SLOPE BASINS IN OREGON

## NEHALEM RIVER BASIN

14301000 NEHALEM RIVER NEAR FOSS, OR

LOCATION.--Lat 45°42'15", long 123°45'15", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 32.60 ft 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 above station.

AVERAGE DISCHARGE.--43 years, 2,727 ft<sup>3</sup>/s, 55.52 in/yr, 1,976,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft<sup>3</sup>/s Jan. 20, 1972, gage height, 23.11 ft; minimum, 34 ft<sup>3</sup>/s Aug. 29-31, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	70	2948	858	719	.84	2.6
NOVEMBER	197	9256	3650	2268	.62	11.1
DECEMBER	599	11390	6434	2666	.41	19.6
JANUARY	596	12450	6436	3235	.50	19.6
FEBRUARY	1066	12490	5959	2507	.42	18.1
MARCH	1518	8696	4401	1940	.44	13.4
APRIL	1149	4889	2709	1124	.41	8.2
MAY	535	3028	1250	555	.44	3.8
JUNE	304	1591	567	258	.46	1.7
JULY	137	436	253	83	.33	.8
AUGUST	63	314	146	48	.33	.4
SEPTEMBER	64	877	224	192	.86	.7
ANNUAL	1063	4235	2727	667	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	88	67	57	49	42	37
3	89	68	58	50	42	38
7	92	70	60	53	45	40
14	98	75	65	57	49	44
30	111	85	73	65	56	50
60	136	102	87	77	66	60
90	165	121	103	91	79	72
120	212	153	130	115	100	91
183	449	323	270	231	193	170

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	27800	35200	39600	44900	48600	52100
WEIGHTED SKEW = -.141						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	25300	31400	34900	39000	41700	44200
3	21800	27200	30400	34100	36700	39100
7	16700	20400	22300	24300	25600	26700
15	13000	15800	17200	18500	19300	19900
30	9810	11800	12800	13700	14200	14600
60	7690	9480	10400	11400	12000	12500
90	6960	8540	9290	10000	10400	10800

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
10900	7510	5610	4380	3440	2770	1820	1140	651	364	271	202	159	129	100

## 14301500 WILSON RIVER NEAR TILLAMOOK, OR

LOCATION.--Lat 45°29'05", long 123°41'20", in SW¼SE¼ 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 mi<sup>2</sup>, 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 September 1982. Prior to January 1915 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 71.89 ft 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 above station.

AVERAGE DISCHARGE.--52 years (water years 1915, 1932-82), 1,203 ft<sup>3</sup>/s, 101.47 in/yr, 871,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft<sup>3</sup>/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 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1915-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	58	2230	621	527	.85	4.3
NOVEMBER	87	3975	1881	1025	.54	13.0
DECEMBER	378	7988	2768	1265	.46	19.1
JANUARY	344	5776	2572	1225	.48	17.8
FEBRUARY	642	4619	2251	886	.39	15.5
MARCH	595	3637	1813	734	.40	12.5
APRIL	426	2550	1184	457	.39	8.2
MAY	202	1391	622	267	.43	4.3
JUNE	164	876	327	166	.51	2.3
JULY	79	304	166	59	.36	1.1
AUGUST	44	240	108	35	.33	.7
SEPTEMBER	40	780	168	157	.93	1.2
ANNUAL	524	1698	1203	256	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	55	49	44	38	35
3	69	56	49	44	39	36
7	71	58	51	46	41	38
14	75	61	54	49	43	40
30	82	66	58	53	47	43
60	97	75	65	58	51	47
90	115	86	74	66	57	53
120	144	104	89	79	70	64
183	267	196	167	147	126	115

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1915-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
13400	17500	22900	26300	30600	33600	36700
WEIGHTED SKEW = .010						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1915-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13200	17200	19700	22900	25200	27400
3	9770	12600	14600	17100	19100	21200
7	7080	9040	10300	12000	13200	14400
15	5190	6590	7460	8520	9270	10000
30	3970	4960	5540	6200	6660	7080
60	3150	3900	4330	4810	5130	5430
90	2870	3470	3760	4050	4220	4360

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1915-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4550	3030	2270	1790	1460	1220	852	591	375	223	174	137	110	92	75

## TRASK RIVER BASIN

## 14302500 TRASK RIVER NEAR TILLAMOOK, OR

LOCATION.--Lat 45°26'25", long 123°43'00", in NW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1931 to September 1955, October 1961 to June 1972.

GAGE.--Water-stage recorder. Datum of gage is 58 ft 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 ft<sup>3</sup>/s, 90.47 in/yr, 699,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 13.34 ft; minimum, 42 ft<sup>3</sup>/s Oct. 15-18, 1952, Sept. 28, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage about 17 ft, probably Nov. 20, 1921, discharge, 30,000 ft<sup>3</sup>/s, from rating curve extended above 12,000 ft<sup>3</sup>/s. Flood of Dec. 21, 1955, reached a stage of 13.09 ft, from floodmark, discharge, 20,200 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1932-71

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	50	1556	449	376	.84	3.9
NOVEMBER	78	3289	1401	769	.55	12.0
DECEMBER	714	5491	2172	988	.45	18.7
JANUARY	644	4377	2135	962	.45	18.4
FEBRUARY	577	3452	1805	657	.36	15.5
MARCH	464	2695	1493	547	.37	12.8
APRIL	383	1951	944	382	.40	8.1
MAY	196	1113	531	210	.40	4.6
JUNE	161	636	303	127	.42	2.6
JULY	90	273	165	48	.29	1.4
AUGUST	59	183	108	27	.25	.9
SEPTEMBER	55	492	127	84	.66	1.1
ANNUAL	563	1273	966	167	.17	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	71	58	52	47	42	--
3	72	59	53	48	42	--
7	74	61	54	49	44	--
14	78	64	57	52	46	--
30	85	69	62	56	50	--
60	97	77	69	62	55	--
90	110	87	77	69	61	--
120	134	102	89	80	71	--
183	229	174	150	132	113	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-71

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9900	12300	15600	17700	20500	22500	--
WEIGHTED SKEW = .263						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1932-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	9550	12200	14000	16500	18400	--
3	7280	9290	10800	12800	14500	--
7	5450	6950	7990	9340	10400	--
15	4170	5250	5880	6590	7080	--
30	3170	3970	4420	4910	5230	--
60	2510	3070	3370	3700	3910	--
90	2300	2720	2920	3100	3210	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1932-71

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3550	2390	1810	1440	1180	990	719	502	330	205	163	133	112	93	78

## NESTUCCA RIVER BASIN

147

14302900 NESTUCCA RIVER NEAR FAIRDALE, OR

LOCATION.--Lat 45°18'40", long 123°25'05", in SW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1960 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,778.99 ft National Geodetic Vertical Datum of 1929 (levels by city of McMinnville).

REMARKS.--Flow regulated since March 1969 by McGuire Lake about 0.6 mi above station. Flow diverted from lake to Haskins Creek basin via trans-basin aqueduct.

AVERAGE DISCHARGE.--22 years, 32.2 ft<sup>3</sup>/s, 70.76 in/yr, 23,330 acre-ft/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 10.43 ft; minimum, 0.76 ft<sup>3</sup>/s Aug. 9, 1976.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1970-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3.8	31	16	8.4	.52	4.4
NOVEMBER	13	118	55	29	.53	15.0
DECEMBER	18	153	76	42	.56	20.6
JANUARY	4.4	132	59	38	.64	16.1
FEBRUARY	8.4	111	46	29	.63	12.4
MARCH	13	80	43	24	.55	11.7
APRIL	7.2	63	32	16	.49	8.7
MAY	6.7	28	15	6.2	.41	4.1
JUNE	4.5	19	8.0	4.0	.50	2.2
JULY	2.2	9.5	5.0	2.4	.49	1.4
AUGUST	2.1	9.1	4.5	2.6	.59	1.2
SEPTEMBER	1.2	16	8.1	5.1	.62	2.2
ANNUAL	10	45	31	10	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1971-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.2	1.5	1.2	1.0	--	--
3	2.4	1.6	1.3	1.1	--	--
7	2.5	1.7	1.3	1.1	--	--
14	2.9	1.8	1.4	1.1	--	--
30	3.1	2.0	1.6	1.4	--	--
60	3.6	2.3	1.8	1.5	--	--
90	4.5	2.9	2.3	1.9	--	--
120	5.6	3.8	3.0	2.4	--	--
183	8.8	6.3	5.1	4.3	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
263	393	582	712	880	--	--
WEIGHTED SKEW = -.082						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	272	380	440	503	--	--
3	217	291	330	370	--	--
7	165	226	260	297	--	--
15	136	191	222	254	--	--
30	105	149	174	202	--	--
60	83	113	126	138	--	--
90	71	95	105	113	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1970-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
122	81	59	46	37	30	21	15	9.6	7.4	6.0	4.7	3.8	3.2	2.5

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.

PERIOD OF RECORD.--October 1928 to September 1944.

GAGE.--Water-stage recorder. Altitude of gage is 1,900 ft, from topographic map.

REMARKS.--No diversion above station. Flow slightly regulated by dam at outlet of Meadow Lake.

AVERAGE DISCHARGE.--16 years (water years 1929-44), 43.6 ft<sup>3</sup>/s, 31,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,480 ft<sup>3</sup>/s Dec. 22, 1933, and Dec. 27, 1937, gage height, 5.1 ft, from rating curve extended above 800 ft<sup>3</sup>/s; minimum, 1.0 ft<sup>3</sup>/s Oct. 11, 1929.

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-44

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-44

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1929-44

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-44

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-44

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
160	108	81	66	55	46	30	19	12	5.7	4.6	3.7	3.0	2.5	2.0

LOCATION.--Lat 45°16'00", long 123°50'45", in SE¼NE¼ 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft<sup>3</sup>/s Jan. 11, 1972, gage height, 22.0 ft, from floodmark; minimum, 32 ft<sup>3</sup>/s Sept. 14, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1962, reached a stage of 23.4 ft, discharge, 32,500 ft<sup>3</sup>/s caused by failure of Meadow Lake Dam.

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1966-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF	PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
								2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
OCTOBER	91	842	376	252	.67	2.9	1	68	54	48	43	--	--
NOVEMBER	209	3982	1390	872	.63	10.6	3	69	55	49	44	--	--
DECEMBER	257	4440	2796	1109	.40	21.3	7	70	56	50	45	--	--
JANUARY	273	4890	2611	1297	.50	19.9	14	74	59	52	47	--	--
FEBRUARY	453	2981	1898	706	.37	14.5	30	82	65	57	51	--	--
MARCH	634	2833	1664	708	.43	12.7	60	100	74	64	56	--	--
APRIL	469	1638	1030	350	.34	7.9	90	123	87	73	63	--	--
MAY	285	917	538	165	.31	4.1	120	151	106	89	77	--	--
JUNE	183	917	351	206	.59	2.7	183	251	187	160	141	--	--
JULY	96	311	173	70	.40	1.3							
AUGUST	49	251	108	47	.43	.8							
SEPTEMBER	54	412	175	120	.69	1.3							
ANNUAL	467	1643	1090	296	.27	100							

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1965-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	PERIOD (CON- SEC- UTIVE DAYS)						
								2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9280	12900	18300	22000	27000	--	--	1	11000	15100	17400	19900	--	--
WEIGHTED SKEW = .148							3	8820	11900	13800	15900	--	--
							7	6450	8270	9310	10500	--	--
							15	4950	6210	6930	7740	--	--
							30	3770	4530	4940	5380	--	--
							60	3030	3720	4070	4410	--	--
							90	2660	3320	3630	3930	--	--

## DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3960	2730	2090	1670	1370	1140	788	543	350	224	181	143	113	92	74



## SILETZ RIVER BASIN

14305500 SILETZ RIVER AT SILETZ, OR

LOCATION.--Lat 44°42'55", long 123°53'10", in NW¼ 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 mi<sup>2</sup>. At sites prior to October 1938, 204 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1905 to November 1911, January to May 1912, January to June 1924, November 1924 to September 1982. Prior to December 1905, monthly discharge only published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 102.32 ft 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 above station for irrigation.

AVERAGE DISCHARGE.--63 years (water years 1906-11, 1926-82), 1,561 ft<sup>3</sup>/s, 104.94 in/yr, 1,131,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1905-12, 1924-82).--Maximum discharge, 34,600 ft<sup>3</sup>/s Nov. 22, 1909, gage height, 24.6 ft, site and datum then in use; minimum observed, 48 ft<sup>3</sup>/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 ft<sup>3</sup>/s, from rating curve extended above 17,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	74	3412	780	768	.98	4.2
NOVEMBER	72	6207	2464	1566	.64	13.2
DECEMBER	401	7828	3448	1466	.43	18.5
JANUARY	518	7664	3350	1556	.46	17.9
FEBRUARY	752	6055	2974	1223	.41	15.9
MARCH	557	4560	2260	983	.43	12.1
APRIL	387	3560	1511	706	.47	8.1
MAY	233	2579	838	447	.53	4.5
JUNE	144	1602	483	336	.70	2.6
JULY	105	602	222	102	.46	1.2
AUGUST	65	419	133	53	.40	.7
SEPTEMBER	59	1138	212	195	.92	1.1
ANNUAL	660	2337	1545	352	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	76	62	56	52	48	46
3	78	64	58	55	51	49
7	80	66	61	57	54	52
14	85	70	64	60	56	54
30	95	77	70	64	59	56
60	115	89	79	71	64	60
90	140	103	88	79	70	64
120	176	122	102	89	77	70
183	327	231	194	169	145	131

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
16200	20700	25900	28900	32400	34700	36900
WEIGHTED SKEW = -.279						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16900	21900	25000	28600	31200	33800
3	13000	16300	18200	20500	22200	23800
7	9350	11500	12800	14300	15400	16400
15	6840	8320	9160	10100	10700	11300
30	5230	6320	6860	7420	7760	8050
60	4060	4990	5510	6070	6440	6780
90	3690	4460	4840	5220	5440	5630

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5810	3950	2950	2320	1900	1570	1090	750	467	279	213	168	133	108	87

14306030 YAQUINA RIVER NEAR CHITWOOD, OR

LOCATION.--Lat 44°39'29", long 123°50'15", in NE¼SW¼ 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.

DRAINAGE AREA.--71.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1972 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 28.43 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--10 years, 251 ft<sup>3</sup>/s, 48.01 in/yr, 181,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,150 ft<sup>3</sup>/s Nov. 16, 1973, gage height, 14.43 ft; minimum, 2.8 ft<sup>3</sup>/s Sept. 27, 1974.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1973-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7.8	83	33	25	.77	1.1
NOVEMBER	20	1140	292	344	1.18	9.7
DECEMBER	23	1089	707	336	.48	23.4
JANUARY	34	979	571	331	.58	18.9
FEBRUARY	90	826	474	270	.57	15.7
MARCH	102	807	399	194	.49	13.2
APRIL	112	515	283	130	.46	9.4
MAY	65	197	131	48	.36	4.3
JUNE	33	242	73	62	.85	2.4
JULY	14	65	26	14	.55	.9
AUGUST	8.0	20	12	3.6	.29	.4
SEPTEMBER	6.1	31	15	7.9	.52	.5
ANNUAL	85	445	251	100	.40	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1974-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1973-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2880	3560	4460	5040	--	--	--
WEIGHTED SKEW = .225						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1973-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3060	3770	4030	--	--	--
3	2360	2950	3210	--	--	--
7	1820	2170	2290	--	--	--
15	1280	1470	1550	--	--	--
30	1020	1180	1240	--	--	--
60	759	971	1070	--	--	--
90	637	870	994	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1973-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1080	707	502	375	290	232	147	91	47	27	20	16	13	9.9	7.7

## YAQUINA RIVER BASIN

14306036 MILL CREEK NEAR TOLEDO, OR

LOCATION.--Lat 44°34'35", long 123°54'25", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1959 to September 1973.

GAGE.--Water-stage recorder. Altitude 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 ft<sup>3</sup>/s, 68.87 in/yr, 15,360 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 609 ft<sup>3</sup>/s Jan. 27, 1965, gage height, 5.83 ft, site and datum then in use, from rating curve extended above 65 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow Sept. 27, Oct. 3, 4, 1961, Sept. 26, 1962.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.0	15	4.8	4.1	.85	1.9
NOVEMBER	5.7	63	28	16	.56	11.1
DECEMBER	18	80	49	21	.42	19.2
JANUARY	14	93	58	28	.48	22.9
FEBRUARY	9.8	91	39	22	.55	15.4
MARCH	10.0	72	35	18	.52	13.7
APRIL	8.7	38	19	9.9	.52	7.5
MAY	4.5	19	9.7	4.3	.45	3.8
JUNE	1.8	18	5.4	4.2	.78	2.1
JULY	.9	5.9	2.7	1.4	.54	1.0
AUGUST	.5	3.4	1.6	.9	.55	.6
SEPTEMBER	.4	4.8	1.9	1.4	.72	.7
ANNUAL	13	28	21	4.4	.21	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.4	.1	.1	.1	--	--
3	.4	.1	.1	.1	--	--
7	.5	.3	.2	.1	--	--
14	.6	.4	.3	.2	--	--
30	.9	.5	.4	.3	--	--
60	1.2	.7	.6	.5	--	--
90	1.4	.9	.7	.6	--	--
120	1.8	1.2	.9	.8	--	--
183	3.4	2.6	2.2	2.0	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
287	363	464	529	610	--	--
WEIGHTED SKEW = .129						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	246	314	370	452	--	--
3	192	233	266	315	--	--
7	148	174	191	212	--	--
15	111	133	146	159	--	--
30	81	97	105	114	--	--
60	62	78	87	96	--	--
90	54	67	74	80	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
86	56	41	31	24	20	14	8.7	5.0	3.2	2.5	2.0	1.5	1.1	.7

# ALSEA RIVER BASIN

153

14306100 NORTH FORK ALSEA RIVER AT ALSEA, OR

LOCATION.--Lat 44°22'45", long 123°35'40", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1957 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 272.31 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Some diversions by pumping above station.

AVERAGE DISCHARGE.--25 years, 281 ft<sup>3</sup>/s, 60.57 in/yr, 203,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 14.57 ft, from rating curve extended above 2,900 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 11.80 ft; minimum, 8.3 ft<sup>3</sup>/s June 8, Sept. 19, 1979.

## STATISTICAL SUMMARIES

### MONTHLY AND ANNUAL MEAN DISCHARGES 1958-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	148	60	40	.66	1.8
NOVEMBER	33	1137	315	248	.79	9.3
DECEMBER	34	1647	649	381	.59	19.2
JANUARY	40	1327	700	386	.55	20.7
FEBRUARY	107	1208	580	263	.45	17.2
MARCH	152	947	471	220	.47	13.9
APRIL	98	566	293	132	.45	8.7
MAY	67	360	151	69	.46	4.5
JUNE	39	137	71	23	.33	2.1
JULY	26	52	36	7.5	.21	1.1
AUGUST	17	46	25	6.0	.24	.7
SEPTEMBER	15	66	29	13	.44	.9
ANNUAL	79	483	281	84	.30	100

### MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW BASED ON PERIOD OF RECORD 1959-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	13	12	12	--
3	17	14	13	13	12	--
7	17	15	14	13	13	--
14	18	16	15	14	14	--
30	20	17	16	16	15	--
60	23	19	18	17	16	--
90	25	21	19	18	17	--
120	30	25	23	21	20	--
183	52	41	36	32	28	--

### MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW BASED ON PERIOD OF RECORD 1958-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3510	4880	7000	8580	10800	12500	--
WEIGHTED SKEW = .340						

### MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW BASED ON PERIOD OF RECORD 1958-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3640	5240	6280	7570	8500	--
3	2750	3900	4670	5640	6350	--
7	1990	2690	3120	3630	3990	--
15	1370	1790	2050	2380	2610	--
30	1050	1300	1420	1550	1620	--
60	818	1050	1160	1280	1350	--
90	718	915	1000	1080	1130	--

### DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1958-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1080	724	522	403	325	267	182	115	69	43	35	30	26	22	19

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1958 to September 1963, October 1967 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 130 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--20 years, 556 ft<sup>3</sup>/s, 66.23 in/yr, 402,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft<sup>3</sup>/s Jan. 21, 1972, gage height, 21.08 ft; minimum, 16 ft<sup>3</sup>/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 ft<sup>3</sup>/s from rating curve extended above 10,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	28	322	140	99	.71	2.1
NOVEMBER	61	2308	717	554	.77	10.6
DECEMBER	73	2393	1402	694	.50	20.7
JANUARY	80	2671	1241	733	.59	18.3
FEBRUARY	283	2363	1181	538	.46	17.5
MARCH	298	1854	936	440	.47	13.8
APRIL	218	1117	574	274	.48	8.5
MAY	137	631	283	139	.49	4.2
JUNE	85	273	131	50	.38	1.9
JULY	45	88	64	13	.20	.9
AUGUST	28	87	42	13	.32	.6
SEPTEMBER	30	95	53	22	.41	.8
ANNUAL	174	939	561	179	.32	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	22	21	20	--	--
3	26	23	22	21	--	--
7	27	24	23	22	--	--
14	28	25	24	23	--	--
30	31	27	26	25	--	--
60	36	30	28	26	--	--
90	43	35	31	29	--	--
120	53	42	38	35	--	--
183	95	72	62	55	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5960	8570	12400	15100	18600	--	--
WEIGHTED SKEW = .067						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6510	9300	11200	13600	--	--
3	5090	7090	8420	10100	--	--
7	3770	4910	5590	6390	--	--
15	2560	3290	3750	4310	--	--
30	2040	2520	2770	3030	--	--
60	1610	2060	2300	2540	--	--
90	1400	1820	2020	2210	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2230	1500	1090	836	650	532	356	223	129	79	63	52	43	36	29

## 14306500 ALSEA RIVER NEAR TIDEWATER, OR

LOCATION.--Lat 44°23'10", long 123°49'50", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 48.16 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 16, 1939, nonrecording gage at present site and datum.

REMARKS.--No regulation. Diversion for irrigation above station.

AVERAGE DISCHARGE.--43 years, 1,522 ft<sup>3</sup>/s, 61.88 in/yr, 1,103,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 27.44 ft; minimum, 45 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	74	2521	417	472	1.13	2.3
NOVEMBER	115	6058	1771	1289	.73	9.7
DECEMBER	182	7419	3446	1770	.51	18.8
JANUARY	211	7874	3721	1941	.52	20.3
FEBRUARY	607	6586	3324	1365	.41	18.1
MARCH	604	5144	2532	1083	.43	13.8
APRIL	550	3203	1529	700	.46	8.3
MAY	331	1848	801	377	.47	4.4
JUNE	178	724	373	132	.35	2.0
JULY	117	269	183	40	.22	1.0
AUGUST	66	234	117	31	.27	.6
SEPTEMBER	60	452	135	76	.56	.7
ANNUAL	431	2541	1522	410	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	75	62	57	53	48	45
3	76	63	58	54	49	46
7	78	66	60	56	51	49
14	82	69	63	59	54	52
30	89	75	68	63	59	56
60	105	85	77	71	64	61
90	121	97	87	79	72	68
120	147	117	104	95	87	82
183	274	208	178	156	134	120

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	20600	27400	31500	36500	39900	43200
WEIGHTED SKEW = -.221						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17000	22200	25300	28700	31000	33200
3	13500	17800	20300	23200	25300	27200
7	10000	13000	14700	16500	17800	18900
15	7240	9180	10200	11300	12000	12600
30	5670	6960	7510	7990	8240	8420
60	4380	5500	6050	6580	6890	7150
90	3910	4910	5370	5800	6030	6210

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
5930	3990	2930	2300	1840	1510	1010	638	374	224	176	141	119	83

## ALSEA RIVER BASIN

14306600 DRIFT CREEK NEAR SALADO, OR

LOCATION.--Lat 44°30'50", long 123°50'50", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1958 to September 1963, June 1965 to September 1970.

GAGE.--Water-stage recorder. Altitude of gage is 460 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--10 years (water years 1959-63, 1966-70), 120 ft<sup>3</sup>/s, 79.49 in/yr, 86,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft<sup>3</sup>/s Nov. 25, 1962, gage height, 8.34 ft, from rating curve extended above 1,300 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 7, 8, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1964 or January 1965, reached a stage of 9.86 ft, from floodmark in well, discharge, 4,050 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.7	89	45	30	.66	3.1
NOVEMBER	73	317	171	88	.52	11.8
DECEMBER	108	400	224	95	.43	15.5
JANUARY	76	488	262	143	.55	18.1
FEBRUARY	154	510	274	109	.40	18.9
MARCH	89	390	209	91	.43	14.5
APRIL	61	232	116	53	.46	8.0
MAY	25	135	74	37	.50	5.1
JUNE	14	70	31	15	.48	2.1
JULY	9.2	23	15	4.2	.29	1.0
AUGUST	5.8	19	9.7	3.8	.39	.7
SEPTEMBER	5.4	62	15	16	1.08	1.0
ANNUAL	106	145	120	11	.10	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1550	1970	2550	2950	--	--	--
WEIGHTED SKEW = .352						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1360	1600	1750	--	--	--
3	1070	1200	1250	--	--	--
7	780	914	997	--	--	--
15	562	692	774	--	--	--
30	413	496	551	--	--	--
60	319	381	417	--	--	--
90	285	330	354	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
447	299	225	179	146	122	88	60	37	22	17	14	11	8.6	6.7

ALSEA RIVER BASIN

157

14306700 NEEDLE BRANCH NEAR SALADO, OR

LOCATION.--Lat 44°30'55", 123°51'20", in SW¼ 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 mi<sup>2</sup>, 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. Altitude of gage is 440 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years, 1.64 ft<sup>3</sup>/s, 82.49 in/yr, 1,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64 ft<sup>3</sup>/s Jan. 11, 1972, gage height, 3.75 ft; minimum, 0.01 ft<sup>3</sup>/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

MONTHLY AND ANNUAL MEAN DISCHARGES 1959-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.1	1.9	.6	.6	1.07	2.9
NOVEMBER	.8	4.6	2.6	1.2	.48	13.3
DECEMBER	1.2	7.8	3.9	2.0	.52	19.8
JANUARY	.8	7.1	4.3	2.1	.49	21.9
FEBRUARY	.7	6.2	2.9	1.4	.47	14.9
MARCH	.7	4.5	2.6	1.1	.43	13.0
APRIL	.6	2.7	1.4	.7	.53	7.1
MAY	.2	1.8	.8	.4	.56	3.9
JUNE	.1	1.1	.3	.2	.70	1.7
JULY	.1	.4	.1	.1	.69	.7
AUGUST	0.0	.2	.1	0.0	.67	.3
SEPTEMBER	0.0	.7	.1	.2	1.38	.7
ANNUAL	1.1	2.5	1.6	.4	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	0.0	0.0	0.0	0.0	--	--
3	0.0	0.0	0.0	0.0	--	--
7	0.0	0.0	0.0	0.0	--	--
14	0.0	0.0	0.0	0.0	--	--
30	0.0	0.0	0.0	0.0	--	--
60	.1	0.0	0.0	0.0	--	--
90	.1	0.0	0.0	0.0	--	--
120	.1	.1	0.0	0.0	--	--
183	.3	.2	.1	.1	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
23	30	39	45	54	--	--
WEIGHTED SKEW = .394						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR 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	27	33	43	--	--
3	15	19	22	26	--	--
7	11	14	15	17	--	--
15	8.2	10	11	13	--	--
30	6.1	7.5	8.3	9.2	--	--
60	4.6	6.0	6.9	8.0	--	--
90	4.1	5.1	5.8	6.5	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
6.6	4.3	3.1	2.5	1.9	1.6	1.0	.7	.4	.2	.1	.1	.1	.1	0.0



## ALSEA RIVER BASIN

14306800 FLYNN CREEK NEAR SALADO, OR

LOCATION.--Lat 44°32'20", long 123°51'05", in SW¼ 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 mi<sup>2</sup>, 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. Altitude of gage is 685 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 4.37 ft<sup>3</sup>/s, 76.08 in/yr, 3,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 139 ft<sup>3</sup>/s Jan. 11, 1972, gage height, 4.73 ft; minimum, 0.07 ft<sup>3</sup>/s Sept. 27, 1967.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.2	3.2	1.0	.9	.90	1.8
NOVEMBER	1.0	11	5.7	3.3	.58	10.7
DECEMBER	4.4	21	9.6	4.7	.49	18.1
JANUARY	3.2	18	12	5.5	.46	22.4
FEBRUARY	2.0	19	8.7	4.1	.47	16.4
MARCH	2.7	15	7.3	3.6	.50	13.7
APRIL	1.8	8.3	4.2	2.0	.48	8.0
MAY	.9	5.3	2.4	1.3	.52	4.6
JUNE	.5	3.2	1.1	.7	.58	2.1
JULY	.3	1.2	.5	.2	.42	1.0
AUGUST	.1	.5	.3	.1	.39	.5
SEPTEMBER	.1	1.4	.4	.3	.86	.7
ANNUAL	2.7	6.3	4.4	.8	.19	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-73

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.2	.1	.1	.1	--	--
3	.2	.1	.1	.1	--	--
7	.2	.1	.1	.1	--	--
14	.2	.1	.1	.1	--	--
30	.2	.2	.1	.1	--	--
60	.3	.2	.1	.1	--	--
90	.3	.2	.2	.2	--	--
120	.4	.3	.2	.2	--	--
183	.8	.5	.4	.4	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
46	62	86	103	126	--	--
WEIGHTED SKEW = .400						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-73

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR 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	60	74	97	--	--
3	36	46	54	67	--	--
7	29	34	38	44	--	--
15	22	27	30	33	--	--
30	16	19	21	23	--	--
60	12	15	17	20	--	--
90	11	13	15	17	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
18	12	8.7	6.7	5.3	4.3	3.1	2.0	1.2	.7	.5	.4	.3	.2	.2

## ALSEA RIVER BASIN

14306810 DEER CREEK NEAR SALADO, DR

LOCATION.--Lat 44°32'05", long 123°52'35", in SW¼ 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 mi<sup>2</sup>, 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. Altitude of gage is 600 ft, from topographic map.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years (water years 1959-73), 6.49 ft<sup>3</sup>/s, 75.33 in/yr, 4,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 2, 14-16, 1972.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1959-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.3	5.0	1.9	1.5	.79	2.4
NOVEMBER	2.5	17	9.0	4.7	.52	11.5
DECEMBER	5.9	30	14	6.7	.48	17.9
JANUARY	4.5	28	17	8.3	.48	22.2
FEBRUARY	2.9	28	12	5.9	.49	15.6
MARCH	3.5	21	10	5.2	.50	13.3
APRIL	2.7	11	6.0	2.8	.47	7.7
MAY	1.2	7.0	3.5	1.7	.50	4.4
JUNE	.7	5.1	1.8	1.1	.60	2.3
JULY	.5	1.9	.8	.4	.46	1.1
AUGUST	.3	1.2	.5	.2	.46	.6
SEPTEMBER	.3	2.7	.7	.7	.89	.9
ANNUAL	4.2	9.1	6.5	1.2	.18	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1960-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.2	.2	.2	--	--
3	.3	.2	.2	.2	--	--
7	.3	.2	.2	.2	--	--
14	.3	.3	.2	.2	--	--
30	.4	.3	.2	.2	--	--
60	.4	.3	.3	.2	--	--
90	.5	.4	.3	.3	--	--
120	.6	.4	.4	.3	--	--
183	1.3	.9	.8	.7	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
78	101	134	158	188	--	--
WEIGHTED SKEW = .343						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1959-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	70	95	117	154	--	--
3	54	69	83	104	--	--
7	42	51	58	68	--	--
15	32	40	44	49	--	--
30	24	29	31	35	--	--
60	18	23	26	29	--	--
90	16	19	22	25	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1959-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
25	17	13	9.6	7.8	6.4	4.5	2.9	1.9	1.1	.8	.6	.5	.4	.3

## BIG CREEK BASIN

14306900 BIG CREEK NEAR ROOSEVELT BEACH, OR

LOCATION.--Lat 44°10'05", long 124°03'55", in SE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1972 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 141 ft, by barometer.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--10 years, 92.9 ft<sup>3</sup>/s, 106.02 in/yr, 67,310 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,150 ft<sup>3</sup>/s Nov. 30, 1975, gage height, 6.90 ft; minimum, 3.8 ft<sup>3</sup>/s Oct. 15, 1979.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1973-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.7	67	29	24	.82	2.6
NOVEMBER	20	386	137	116	.85	12.2
DECEMBER	20	398	244	109	.45	21.8
JANUARY	27	287	182	97	.53	16.3
FEBRUARY	56	308	174	90	.52	15.5
MARCH	49	269	140	62	.44	12.5
APRIL	50	153	92	31	.34	8.2
MAY	27	86	49	21	.43	4.4
JUNE	13	56	30	13	.43	2.7
JULY	8.6	46	18	11	.59	1.6
AUGUST	6.0	18	11	3.5	.39	.9
SEPTEMBER	7.7	29	14	8.4	.60	1.3
ANNUAL	40	158	93	33	.35	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1974-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LESS THAN 10 YEARS OF DATA AVAILABLE.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1973-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
720	1070	1570	1900	--	--	--
WEIGHTED SKEW = -.199						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1973-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	872	1170	1340	--	--	--
3	690	900	1010	--	--	--
7	533	670	738	--	--	--
15	403	493	539	--	--	--
30	324	396	432	--	--	--
60	249	321	363	--	--	--
90	215	292	336	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1973-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
353	241	183	144	115	92	61	42	29	19	15	13	10	8.3	6.7

## SIUSLAW RIVER BASIN

161

14307500 LAKE CREEK AT TRIANGLE LAKE, OR

LOCATION.--Lat 44°09'40", long 123°34'10", in SW $\frac{1}{4}$  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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1931 to September 1955.

GAGE.--Water-stage recorder. Datum of gage is 672.75 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by natural storage in Triangle Lake. No diversion above station.

AVERAGE DISCHARGE.--24 years (water years 1932-55), 210 ft<sup>3</sup>/s, 152,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,180 ft<sup>3</sup>/s Feb. 18, 1949, gage-height, 8.33 ft, from rating curve extended above 2,400 ft<sup>3</sup>/s by logarithmic plotting; maximum gage height, 8.68 ft Feb. 18, 1949 (backwater from debris); minimum discharge, 2.7 ft<sup>3</sup>/s Aug. 1, 1944; minimum daily, 4.2 ft<sup>3</sup>/s Oct. 18, 19, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 7.7 ft, from floodmark, discharge, 3,600 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1932-55

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.5	360	52	76	1.46	2.1
NOVEMBER	9.7	573	226	174	.77	8.9
DECEMBER	79	927	426	247	.58	16.8
JANUARY	162	912	508	222	.44	20.1
FEBRUARY	160	939	500	201	.40	19.8
MARCH	98	794	362	162	.45	14.3
APRIL	78	551	224	117	.52	8.9
MAY	37	276	117	62	.53	4.6
JUNE	27	149	58	32	.56	2.3
JULY	15	61	27	11	.41	1.1
AUGUST	6.9	30	15	5.7	.38	.6
SEPTEMBER	8.5	55	16	9.9	.62	.6
ANNUAL	120	303	210	50	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-55

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.6	7.1	6.1	5.4	--	--
3	9.6	7.2	6.2	5.5	--	--
7	9.9	7.4	6.3	5.6	--	--
14	10	7.7	6.7	5.9	--	--
30	11	8.4	7.3	6.5	--	--
60	13	9.6	8.4	7.6	--	--
90	14	11	9.4	8.5	--	--
120	18	13	11	9.6	--	--
183	35	24	20	16	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-55

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	4010	4900	--	--
WEIGHTED SKEW = -.286						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1932-55

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2140	3110	3680	4330	--	--
3	1760	2460	2860	3320	--	--
7	1330	1820	2090	2390	--	--
15	1030	1300	1420	1520	--	--
30	804	951	998	1030	--	--
60	620	737	782	816	--	--
90	553	672	724	769	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1932-55

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
807	555	413	333	275	227	144	89	52	30	23	19	15	13	10

## SIUSLAW RIVER BASIN

14307580 LAKE CREEK NEAR DEADWOOD, OR

LOCATION.--Lat 44°04'58", long 123°47'05", in NW1/4 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 178.86 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Flow slightly regulated by natural storage in Triangle Lake. Several diversions for irrigation above station.

AVERAGE DISCHARGE.--15 years, 726 ft<sup>3</sup>/s, 56.66 in/yr, 526,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft<sup>3</sup>/s Dec. 25, 1980, gage height, 15.86 ft; minimum, 12 ft<sup>3</sup>/s Aug. 14, 15, 17, 18, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1968-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	26	391	147	111	.76	1.7
NOVEMBER	87	2654	766	676	.88	8.8
DECEMBER	77	3272	1901	972	.51	21.7
JANUARY	92	3343	1820	966	.53	20.8
FEBRUARY	338	2260	1515	641	.42	17.3
MARCH	396	2235	1196	598	.50	13.7
APRIL	285	1501	751	348	.46	8.6
MAY	181	585	327	126	.39	3.7
JUNE	101	304	154	55	.36	1.8
JULY	35	97	68	17	.24	.8
AUGUST	23	99	42	18	.44	.5
SEPTEMBER	26	122	61	29	.48	.7
ANNUAL	215	1239	726	263	.36	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	19	16	14	--	--
3	25	19	17	14	--	--
7	26	20	17	15	--	--
14	28	21	18	16	--	--
30	32	24	21	19	--	--
60	38	29	26	24	--	--
90	46	35	31	28	--	--
120	57	44	39	36	--	--
183	108	82	70	62	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
6570	9840	14700	18200	22700	--	--	
WEIGHTED SKEW = -.014							

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7520	11100	13700	17200	--	--
3	6300	9060	10900	13400	--	--
7	4870	6440	7400	8530	--	--
15	3480	4420	4980	5630	--	--
30	2770	3380	3680	3970	--	--
60	2150	2770	3090	3420	--	--
90	1880	2480	2770	3050	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3060	2050	1450	1090	851	678	435	270	156	88	68	55	45	38	29

## SIUSLAW RIVER BASIN

163

14307620 SIUSLAW RIVER NEAR MAPLETON, OR

LOCATION.--Lat 44°03'45", long 123°52'55", in SW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 41 ft, from topographic map.

REMARKS.--No regulation or diversions above station.

AVERAGE DISCHARGE.--15 years, 2,159 ft<sup>3</sup>/s, 49.86 in/yr, 1,564,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,400 ft<sup>3</sup>/s Jan. 21, 1972, gage height, 28.45 ft; minimum, 45 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1968-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	94	1219	464	364	.78	1.8
NOVEMBER	281	7819	2237	1980	.89	8.6
DECEMBER	261	9787	5646	2912	.52	21.7
JANUARY	300	10060	5526	2941	.53	21.3
FEBRUARY	876	6577	4302	1818	.42	16.6
MARCH	1287	6819	3496	1795	.51	13.5
APRIL	686	4445	2226	1076	.48	8.6
MAY	568	1753	1000	361	.36	3.8
JUNE	320	930	504	158	.31	1.9
JULY	127	323	244	59	.24	.9
AUGUST	78	321	151	61	.40	.6
SEPTEMBER	97	356	196	90	.46	.8
ANNUAL	576	3711	2160	802	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	86	65	56	49	--	--
3	88	66	57	50	--	--
7	91	69	60	53	--	--
14	97	73	63	56	--	--
30	108	83	73	66	--	--
60	130	99	87	78	--	--
90	156	119	105	94	--	--
120	194	152	135	124	--	--
183	349	269	234	209	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
18500	27500	39800	47700	57500	--	--
WEIGHTED SKEW = -.255						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	23300	34000	40900	49100	--	--
3	19300	27700	32900	39000	--	--
7	14700	19800	22700	26000	--	--
15	10300	13400	15300	17400	--	--
30	8160	10100	10900	11700	--	--
60	6400	8380	9320	10200	--	--
90	5620	7440	8250	8970	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
8950	5920	4170	3170	2490	2010	1330	826	497	296	236	193	160	132	97

## SIUSLAW RIVER BASIN

14307645 NORTH FORK SIUSLAW RIVER NEAR MINERVA, OR

LOCATION.--Lat 44°02'50", long 124°00'10", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 40 ft, from topographic map.

REMARKS.--No regulation. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--15 years, 290 ft<sup>3</sup>/s, 95.59 in/yr, 210,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,400 ft<sup>3</sup>/s Dec. 25, 1980, gage height, 24.36 ft; minimum, 11 ft<sup>3</sup>/s Sept. 9-11, 17, 18, 1980.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1968-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	16	279	101	79	.78	2.9
NOVEMBER	67	1078	383	285	.74	11.0
DECEMBER	56	1303	759	336	.44	21.7
JANUARY	73	1082	659	315	.48	18.8
FEBRUARY	171	875	564	224	.40	16.1
MARCH	150	809	430	199	.46	12.3
APRIL	134	560	273	117	.43	7.8
MAY	84	256	133	51	.38	3.8
JUNE	42	167	83	36	.43	2.4
JULY	26	82	42	15	.36	1.2
AUGUST	16	78	29	15	.53	.8
SEPTEMBER	16	99	41	25	.60	1.2
ANNUAL	118	443	290	88	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	11	10	--	--
3	15	13	12	11	--	--
7	16	13	12	12	--	--
14	17	14	13	12	--	--
30	19	15	14	14	--	--
60	23	19	17	16	--	--
90	29	21	19	17	--	--
120	37	27	23	20	--	--
183	62	48	41	36	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2150	2700	3460	3970	4620	--	--
WEIGHTED SKEW = .295						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1968-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2350	2950	3360	3910	--	--
3	2040	2530	2830	3180	--	--
7	1700	2020	2170	2310	--	--
15	1280	1530	1670	1820	--	--
30	1040	1220	1310	1400	--	--
60	820	1020	1130	1250	--	--
90	713	907	1010	1110	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1968-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1170	772	576	453	358	284	189	126	83	53	44	35	27	22	17

LOCATION.--Lat 42°57'15", long 122°49'40", in SW¼NE¼ 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.

PERIOD OF RECORD.--October 1955 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,240.25 ft National Geodetic Vertical Datum of 1929 (levels by Douglas County Water Resources Survey).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--27 years, 313 ft<sup>3</sup>/s, 27.96 in/yr, 226,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.0 ft, from floodmark, from rating curve extended above 5,100 ft<sup>3</sup>/s and basin runoff comparison; minimum, 11 ft<sup>3</sup>/s Jan. 6, 1977, Nov. 13, 1978, result of freezeup.

## STATISTICAL SUMMARIES

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STANDARD DEVIATION (CFS)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	19	242	55	48	.87	1.5
NOVEMBER	23	1203	293	256	.87	7.8
DECEMBER	19	2006	605	490	.81	16.1
JANUARY	25	1410	648	403	.62	17.2
FEBRUARY	26	1153	527	222	.42	14.0
MARCH	122	1363	529	284	.54	14.1
APRIL	158	705	449	153	.34	11.9
MAY	120	752	389	159	.41	10.3
JUNE	52	371	163	95	.58	4.3
JULY	22	81	48	17	.35	1.3
AUGUST	17	70	27	10	.37	.7
SEPTEMBER	16	89	27	14	.51	.7
ANNUAL	85	566	313	109	.35	100

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	13	12	--
3	17	15	14	13	12	--
7	18	15	14	13	13	--
14	18	16	15	14	13	--
30	19	17	16	15	15	--
60	22	19	18	17	16	--
90	24	21	20	19	18	--
120	30	25	22	21	19	--
183	68	47	38	32	25	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3410	5490	8990	11700	15600	18800	--
WEIGHTED SKEW =		.118				

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, 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	3850	6190	7670	9400	10600	--
3	2650	4310	5510	7100	8330	--
7	1750	2750	3490	4510	5330	--
15	1230	1810	2210	2740	3150	--
30	966	1350	1590	1890	2110	--
60	763	1070	1270	1520	1710	--
90	683	935	1080	1260	1370	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1040	739	588	497	420	355	251	158	85	44	34	29	25	21	19



## UMPQUA RIVER BASIN

14308000 SOUTH UMPQUA RIVER AT TILLER, OR

LOCATION.--Lat 42°55'50", long 122°56'50", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1910 to December 1911, October 1939 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Prior to December 1911, published as "South Fork of Umpqua River at Tiller".

GAGE.--Water-stage recorder. Datum of gage is 991.8 ft 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 above station.

AVERAGE DISCHARGE.--44 years, 1,034 ft<sup>3</sup>/s, 31.27 in/yr, 749,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 25.72 ft; minimum observed, 20 ft<sup>3</sup>/s Sept. 3, 4, 1911.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1911-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	44	1791	210	292	1.39	1.7
NOVEMBER	48	3977	1061	860	.81	8.5
DECEMBER	67	7480	2015	1586	.79	16.2
JANUARY	90	4513	2153	1342	.62	17.3
FEBRUARY	95	3757	1977	824	.42	15.9
MARCH	442	4776	1727	909	.53	13.9
APRIL	433	2314	1391	477	.34	11.2
MAY	309	2093	1081	475	.44	8.7
JUNE	121	1643	512	293	.57	4.1
JULY	50	301	154	60	.39	1.2
AUGUST	30	206	77	29	.37	.6
SEPTEMBER	40	228	73	31	.42	.6
ANNUAL	267	1762	1034	343	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	37	34	31	28	26
3	45	37	34	31	28	26
7	46	38	35	32	29	27
14	48	40	37	34	31	29
30	53	44	40	37	34	32
60	61	50	45	41	38	35
90	71	58	53	49	45	43
120	91	74	67	62	57	54
183	220	151	123	105	87	76

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1911-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
11300	17800	28200	36000	46700	55300	64400
WEIGHTED SKEW = .034						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1911-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	13500	21100	25700	30900	34300	37300
3	9390	14700	18000	22100	24900	27500
7	6320	9480	11500	13900	15600	17200
15	4320	6170	7340	8760	9770	10700
30	3320	4600	5400	6360	7040	7690
60	2640	3660	4300	5050	5590	6100
90	2340	3200	3720	4330	4740	5140

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1911-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3630	2470	1940	1580	1320	1100	779	511	283	138	105	84	70	58	48

14308500 ELK CREEK NEAR DREW, OR

LOCATION.--Lat 42°53'25", long 122°55'00", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1954 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,279.25 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several diversions for irrigation above station.

AVERAGE DISCHARGE.--28 years (water years 1955-82), 84.3 ft<sup>3</sup>/s, 61,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,880 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 10.61 ft, from rating curve extended above 2,900 ft<sup>3</sup>/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, and Aug. 17-24, Sept. 16-19, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 11.8 ft, from floodmarks, probably for flood in January or November 1953, discharge, about 11,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.5	63	8.7	13	1.47	.9
NOVEMBER	3.3	449	74	91	1.22	7.3
DECEMBER	3.1	651	188	169	.90	18.5
JANUARY	4.9	644	224	162	.72	22.1
FEBRUARY	5.1	382	173	89	.52	17.0
MARCH	42	356	164	93	.56	16.2
APRIL	27	193	107	51	.48	10.5
MAY	11	164	53	37	.69	5.3
JUNE	3.8	51	15	11	.72	1.5
JULY	.7	11	4.1	2.6	.65	.4
AUGUST	.1	10	1.7	1.9	1.09	.2
SEPTEMBER	.1	19	2.2	3.3	1.53	.2
ANNUAL	16	180	84	36	.43	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1956-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.6	.2	.1	0.0	0.0	--
3	.6	.2	.1	0.0	0.0	--
7	.7	.2	.1	.1	0.0	--
14	.7	.2	.1	.1	0.0	--
30	.8	.3	.2	.1	0.0	--
60	1.2	.6	.4	.3	.2	--
90	1.5	1.0	.8	.7	.5	--
120	2.4	1.6	1.3	1.1	1.0	--
183	7.3	4.7	3.7	3.1	2.5	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1660	2900	4990	6610	8870	10700	--
WEIGHTED SKEW = -.081						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1955-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1730	2880	3550	4280	4730	--
3	1120	1860	2320	2870	3240	--
7	721	1160	1440	1780	2010	--
15	462	706	857	1030	1160	--
30	334	491	588	702	781	--
60	263	376	437	501	540	--
90	222	315	366	420	455	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
346	210	159	121	92	72	40	21	9.7	4.5	3.2	2.4	1.7	1.2	.7

## UMPQUA RIVER BASIN

14308700 DAYS CREEK AT DAYS CREEK, OR

LOCATION.--Lat 42°58'55", long 123°08'55", in NE¼ 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 town of Days Creek, and at mile 1.3.

DRAINAGE AREA.--55.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to July 1972.

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 810 ft, from topographic map. Prior to Oct. 1, 1962, at site 170 ft upstream at detum 3.06 ft higher.

REMARKS.--No regulation. Several diversions for irrigation above station.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 44.4 ft<sup>3</sup>/s, 32,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,450 ft<sup>3</sup>/s Feb. 21, 1956, gage height, 11.24 ft, site and detum then in use, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow for many days in July and August 1961.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-71

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.5	32	7.2	8.3	1.15	1.4
NOVEMBER	3.7	120	39	34	.88	7.2
DECEMBER	11	424	115	107	.93	21.5
JANUARY	13	232	120	78	.65	22.5
FEBRUARY	42	213	99	48	.49	18.5
MARCH	20	166	82	49	.59	15.3
APRIL	11	112	35	25	.70	6.6
MAY	4.2	117	25	27	1.08	4.7
JUNE	2.0	26	7.8	6.2	.79	1.5
JULY	.5	4.4	2.0	1.4	.68	.4
AUGUST	.1	2.2	1.0	.7	.65	.2
SEPTEMBER	.7	3.0	1.5	.6	.44	.3
ANNUAL	19	92	44	16	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.2	.1	.1	--	--
3	.4	.2	.1	.1	--	--
7	.5	.2	.1	.1	--	--
14	.5	.2	.1	.1	--	--
30	.6	.3	.2	.1	--	--
60	.8	.5	.4	.3	--	--
90	1.1	.7	.6	.6	--	--
120	1.5	1.1	.9	.8	--	--
183	3.8	2.5	2.1	1.9	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-71

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

1040 1580 2380 2930 3630 -- --

WEIGHTED SKEW = -.143

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	934	1360	1650	2020	--	--
3	657	922	1090	1290	--	--
7	406	593	732	926	--	--
15	264	378	455	555	--	--
30	197	272	320	381	--	--
60	142	194	233	287	--	--
90	118	164	198	244	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-71

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
181	114	79	55	43	34	20	11	6.0	3.1	2.3	1.8	1.3	.8	.5

## UMPQUA RIVER BASIN

169

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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1926 to September 1928 (no winter records), April 1929 to December 1931, April 1932 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,694.32 ft 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.--No regulation. Diversions for irrigation above station.

AVERAGE DISCHARGE.--52 years (water years 1930-31, 1933-82), 110 ft<sup>3</sup>/s, 19.15 in/yr, 79,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft<sup>3</sup>/s Jan. 15, 1974, gage height, 16.40 ft, from high-water mark in well; minimum, 1.1 ft<sup>3</sup>/s Aug. 12, 1981, but may have been less during period of no gage-height record Sept. 4-30, 1970.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1930-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.1	294	25	40	1.58	1.9
NOVEMBER	9.1	542	83	90	1.08	6.3
DECEMBER	14	765	201	181	.90	15.1
JANUARY	15	926	265	208	.78	20.0
FEBRUARY	18	598	242	128	.53	18.2
MARCH	35	521	206	116	.56	15.5
APRIL	36	328	147	75	.51	11.1
MAY	15	268	80	47	.59	6.0
JUNE	18	129	38	20	.51	2.9
JULY	6.7	36	18	6.2	.35	1.3
AUGUST	4.9	23	12	3.8	.33	.9
SEPTEMBER	5.8	30	12	3.7	.32	.9
ANNUAL	23	269	110	49	.45	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1931-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.4	6.0	4.8	3.9	3.0	2.4
3	8.6	6.2	4.9	4.0	3.0	2.5
7	8.8	6.6	5.4	4.5	3.6	3.1
14	9.2	6.9	5.8	4.9	4.0	3.5
30	9.7	7.4	6.3	5.4	4.5	3.9
60	11	8.5	7.4	6.6	5.8	5.3
90	11	9.4	8.5	7.9	7.2	6.8
120	13	11	9.9	9.1	8.2	7.7
183	21	16	14	12	11	10

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1930-82

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

1390 2670 4670 6050 7760 9000 10200

WEIGHTED SKEW = -.544

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1930-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	1830	3110	3880	4730	5270	5750
3	1220	2050	2550	3100	3450	3750
7	818	1330	1630	1970	2190	2380
15	548	855	1040	1250	1380	1500
30	393	604	735	886	989	1080
60	318	467	547	630	681	724
90	271	394	462	532	575	612

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1930-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
404	264	198	156	123	100	64	41	26	18	16	14	12	10	8.4

LOCATION.--Lat 42°48'15", long 123°36'35", in SW1/4 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1955 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,018.48 ft 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 above station.

AVERAGE DISCHARGE.--27 years (water years 1956-82), 273 ft<sup>3</sup>/s, 42.66 in/yr, 197,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.59 ft, from floodmark, from rating curve extended above 2,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 3.7 ft<sup>3</sup>/s Aug. 17, 19, 1977.

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STANDARD DEVIATION (CFS)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.5	254	48	55	1.14	1.5
NOVEMBER	15	1470	298	294	.99	9.1
DECEMBER	13	1669	648	460	.71	19.7
JANUARY	24	1496	724	457	.63	22.0
FEBRUARY	66	1660	576	316	.55	17.5
MARCH	116	920	502	240	.48	15.3
APRIL	79	840	290	180	.62	8.8
MAY	44	476	120	94	.78	3.7
JUNE	23	79	38	11	.29	1.2
JULY	11	25	18	3.6	.20	.5
AUGUST	7.3	16	11	2.3	.21	.3
SEPTEMBER	6.9	54	14	9.7	.71	.4
ANNUAL	60	499	273	96	.35	100

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, 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	7.3	6.1	5.5	5.0	4.5	--
3	7.5	6.3	5.7	5.2	4.6	--
7	7.6	6.5	5.8	5.3	4.7	--
14	8.0	6.7	6.0	5.5	4.9	--
30	8.4	7.2	6.7	6.3	5.8	--
60	9.5	8.2	7.6	7.2	6.9	--
90	11	9.6	9.1	8.7	8.5	--
120	14	12	11	10	9.6	--
183	30	21	18	16	14	--

1.25	2	5	10	25	50	100
80%	50%	20%	10%	4%	2%	1%
4600	6820	9790	11700	14000	15600	--
WEIGHTED SKEW = -.307						

SECURE- TIVE (DAYS)	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4580	6630	7830	9160	10000	--
3	3260	4770	5710	6830	7620	--
7	2220	3230	3880	4700	5300	--
15	1500	2070	2420	2820	3090	--
30	1110	1510	1740	2000	2170	--
60	887	1190	1340	1480	1570	--
90	750	992	1110	1210	1270	--

## DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1230	722	505	373	276	212	127	68	39	22	17	14	12	9.7	8.1

## UMPQUA RIVER BASIN

171

14310000 COW CREEK NEAR RIDDLE, OR

LOCATION.--Lat 42°55'25", long 123°25'40", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1954 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 682.60 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Many small diversions for irrigation above station.

AVERAGE DISCHARGE.--28 years (water years 1955-82), 888 ft<sup>3</sup>/s, 634,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,400 ft<sup>3</sup>/s Jan. 15, 1974, gage height, 28.17 ft; minimum, 7.4 ft<sup>3</sup>/s Aug. 17-19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of about 28.5 ft, discharge, 41,100 ft<sup>3</sup>/s, from slope-area measurement.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	41	633	126	125	.99	1.2
NOVEMBER	59	4712	797	923	1.16	7.5
DECEMBER	58	6574	1971	1608	.82	18.4
JANUARY	85	5889	2466	1743	.71	23.1
FEBRUARY	161	5902	1915	1119	.58	17.9
MARCH	506	3398	1689	912	.54	15.8
APRIL	199	2719	1000	610	.61	9.4
MAY	172	1943	435	337	.77	4.1
JUNE	75	264	150	50	.33	1.4
JULY	25	128	65	22	.33	.6
AUGUST	15	70	36	12	.33	.3
SEPTEMBER	26	156	44	25	.56	.4
ANNUAL	147	1809	888	384	.43	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1956-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	19	15	13	9.8	--
3	26	19	16	13	9.9	--
7	27	20	16	13	10	--
14	28	21	17	14	11	--
30	29	22	19	16	13	--
60	34	26	22	19	16	--
90	39	32	28	26	23	--
120	50	42	38	36	33	--
183	99	75	66	60	54	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
12700	19600	29000	35000	42300	47500	--	
WEIGHTED SKEW = -.375							

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1955-82

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	15900	23900	27700	31000	32800	--
3	10800	16900	20400	24200	26500	--
7	7250	11600	14300	17500	19600	--
15	4850	7370	8860	10500	11600	--
30	3610	5370	6360	7420	8090	--
60	2880	4130	4750	5330	5660	--
90	2420	3440	3940	4410	4670	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
3880	2260	1580	1160	901	708	418	241	134	77	61	51	42	34	27	

## UMPQUA RIVER BASIN

14310700 SOUTH MYRTLE CREEK NEAR MYRTLE CREEK, OR

LOCATION.--Lat 43°01'55", long 123°11'30", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to July 1972.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 775.25 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Several diversions for irrigation above station.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 65.9 ft<sup>3</sup>/s, 57,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,050 ft<sup>3</sup>/s Dec. 11, 1956, gage height, 7.72 ft, from rating curve extended above 1,100 ft<sup>3</sup>/s; minimum observed, 0.20 ft<sup>3</sup>/s Aug. 2, 1961.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-71

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	6.2	44	15	11	.74	1.8
NOVEMBER	8.3	146	59	40	.67	7.5
DECEMBER	18	434	145	122	.84	18.3
JANUARY	22	345	170	114	.67	21.4
FEBRUARY	64	230	135	54	.40	17.0
MARCH	39	274	127	75	.59	16.0
APRIL	25	149	65	31	.47	8.2
MAY	13	159	47	35	.74	5.9
JUNE	5.6	33	17	8.2	.49	2.1
JULY	1.2	13	5.7	3.3	.57	.7
AUGUST	1.3	5.6	3.2	1.4	.44	.4
SEPTEMBER	2.8	8.1	5.0	1.5	.31	.6
ANNUAL	28	120	66	22	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.8	.4	.3	.2	--	--
3	1.1	.6	.4	.3	--	--
7	1.5	1.0	.8	.6	--	--
14	1.8	1.1	.9	.8	--	--
30	2.1	1.4	1.2	1.0	--	--
60	2.8	2.0	1.7	1.4	--	--
90	3.6	2.8	2.5	2.3	--	--
120	4.9	3.8	3.3	3.0	--	--
183	9.6	7.1	6.2	5.6	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-71

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

1320 1830 2490 2910 3400 -- --

WEIGHTED SKEW = -.212

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-71

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	1100	1520	1790	2130	--	--
3	808	1070	1210	1370	--	--
7	521	722	854	1020	--	--
15	357	480	551	629	--	--
30	266	358	414	478	--	--
60	196	267	316	380	--	--
90	168	227	265	313	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-71

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
258	165	117	89	72	59	40	26	16	8.6	6.8	5.4	4.2	3.1	2.0

## 14311000 NORTH MYRTLE CREEK NEAR MYRTLE CREEK, OR

LOCATION.--Lat 43°02'30", long 123°15'30", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 642.81 ft 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 above station.

AVERAGE DISCHARGE.--27 years, 72.8 ft<sup>3</sup>/s, 52,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft<sup>3</sup>/s Dec. 6, 1981, gage height, 10.08 ft, from floodmark, from rating curve extended above 1,300 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	4.6	38	12	7.4	.64	1.3
NOVEMBER	9.1	376	68	73	1.07	7.8
DECEMBER	9.5	482	169	130	.77	19.3
JANUARY	11	384	195	119	.61	22.3
FEBRUARY	9.1	363	152	81	.53	17.4
MARCH	38	294	135	84	.62	15.4
APRIL	18	207	77	47	.60	8.8
MAY	12	188	40	34	.86	4.5
JUNE	5.2	34	15	6.3	.44	1.7
JULY	1.6	11	5.5	2.3	.43	.6
AUGUST	1.1	9.9	3.4	1.8	.53	.4
SEPTEMBER	2.6	11	4.7	1.8	.38	.5
ANNUAL	13	133	73	27	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	2.4	1.2	.6	.3	.1	--
30	2.5	1.6	1.2	.9	.7	--
60	3.2	2.1	1.7	1.4	1.1	--
90	3.8	2.8	2.3	2.0	1.7	--
120	5.0	3.9	3.4	3.0	2.6	--
183	9.2	7.1	6.3	5.7	5.2	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1050	1780	2780	3410	4150	4650	--
WEIGHTED SKEW = -.574						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1350	1890	2080	2210	2250	--
3	937	1300	1430	1520	1550	--
7	630	866	948	1000	1020	--
15	418	576	639	688	711	--
30	315	423	463	493	505	--
60	248	324	350	366	373	--
90	208	278	306	326	335	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
308	189	135	103	79	62	38	24	14	8.3	6.6	5.1	4.0	3.1	2.2



## UMPQUA RIVER BASIN

14311200 OLALLA CREEK NEAR TENMILE, OR

LOCATION.--Lat 43°02'20", long 123°32'35", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1956 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 749.53 ft 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 above station.

AVERAGE DISCHARGE.--17 years, 102 ft<sup>3</sup>/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,160 ft<sup>3</sup>/s Jan. 3, 1966, gage height, 11.98 ft, from floodmark; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1920, 13.6 ft Dec. 26, 1955, from floodmarks, present site and datum, discharge, 12,300 ft<sup>3</sup>/s, from rating curve extended above 6,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.9	51	8.9	15	1.64	.7
NOVEMBER	3.4	253	80	71	.89	6.5
DECEMBER	11	660	239	175	.73	19.4
JANUARY	25	613	328	214	.65	26.7
FEBRUARY	56	754	242	177	.73	19.7
MARCH	45	463	205	126	.61	16.7
APRIL	20	283	79	69	.87	6.4
MAY	6.9	246	37	57	1.56	3.0
JUNE	2.8	28	8.6	6.5	.76	.7
JULY	.4	5.8	2.0	1.6	.82	.2
AUGUST	0.0	1.5	.5	.4	.79	0.0
SEPTEMBER	.1	1.8	.8	.5	.64	.1
ANNUAL	42	167	102	31	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.2	.1	0.0	0.0	--	--
60	.4	.2	.1	.1	--	--
90	.7	.4	.3	.2	--	--
120	1.2	.8	.6	.5	--	--
183	4.5	2.6	2.0	1.6	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2750	4140	6230	7710	9680	--	--
WEIGHTED SKEW = 0.000						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-73

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2540	3570	4060	4490	--	--
3	1820	2490	2800	3080	--	--
7	1110	1580	1870	2200	--	--
15	709	984	1160	1360	--	--
30	513	682	775	877	--	--
60	385	500	563	628	--	--
90	317	414	465	518	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
512	267	170	115	81	59	31	16	7.2	2.8	1.8	1.1	.7	.4	.2

## 14311500 LOOKINGGLASS CREEK AT BROCKWAY, OR

LOCATION.--Lat 43°07'50", long 123°27'50", in SE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1982.

GAGE.--Water-stage recorder. Altitude 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.

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 above 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 ft<sup>3</sup>/s, 204,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft<sup>3</sup>/s Dec. 26, 1955, gage height, 24.93 ft, site and datum then in use, from rating curve extended above 7,200 ft<sup>3</sup>/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.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-79

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	98	14	25	1.78	.4
NOVEMBER	5.3	1444	256	330	1.29	7.6
DECEMBER	4.9	3323	741	726	.98	21.9
JANUARY	11	1811	873	585	.67	25.7
FEBRUARY	29	1954	674	444	.66	19.9
MARCH	110	1105	519	320	.62	15.3
APRIL	33	751	207	163	.79	6.1
MAY	19	631	87	126	1.44	2.6
JUNE	3.9	57	16	13	.81	.5
JULY	0.0	10	1.8	2.4	1.34	.1
AUGUST	0.0	2.6	.1	.5	3.79	0.0
SEPTEMBER	0.0	9.1	.9	2.1	2.27	0.0
ANNUAL	27	628	282	125	.44	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-79

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	--	--	--	--	--	--

NOTE: LOW-FLOW STATISTICS UNCERTAIN DUE TO EXCESSIVE ZERO EVENTS.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-79

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = -.456						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-79

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7260	12100	14700	17200	--	--
3	4860	7590	8890	10000	--	--
7	3090	4930	5940	6950	--	--
15	1940	2990	3560	4140	--	--
30	1400	2030	2330	2590	--	--
60	1120	1500	1630	1710	--	--
90	929	1250	1360	1420	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-79

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1400	734	475	317	230	168	83	35	14	3.8	1.0	0.0	0.0	0.0	0.0

## UMPQUA RIVER BASIN

14312000 SOUTH UMPQUA RIVER NEAR BROCKWAY, OR

LOCATION.--Lat 43°08'00", long 123°23'50", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1905 to June 1912, October 1923 to September 1926, January 1942 to September 1982. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 462.52 ft 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.--No regulation. Many small diversions for irrigation above station.

AVERAGE DISCHARGE.--48 years (water years 1907-11, 1924-26, 1943-82), 2,873 ft<sup>3</sup>/s, 23.36 in/yr, 2,081,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 34.28 ft; minimum, 16 ft<sup>3</sup>/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, 89,500 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1907-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	103	6045	508	888	1.75	1.5
NOVEMBER	190	13590	2814	2666	.95	8.2
DECEMBER	184	19540	5877	4621	.79	17.0
JANUARY	262	16010	7368	4529	.61	21.4
FEBRUARY	341	15370	6445	2693	.42	18.7
MARCH	1372	10950	4887	2570	.53	14.2
APRIL	589	7378	3241	1547	.48	9.4
MAY	446	6909	1972	1213	.62	5.7
JUNE	142	3312	854	531	.62	2.5
JULY	53	576	255	117	.46	.7
AUGUST	40	332	128	57	.44	.4
SEPTEMBER	69	478	136	63	.46	.4
ANNUAL	562	5567	2871	1040	.36	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1908-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	80	53	41	33	25	21
3	81	54	42	33	25	21
7	84	56	44	36	27	22
14	88	60	48	39	30	25
30	96	67	55	46	37	31
60	114	83	70	60	50	45
90	132	100	87	78	69	64
120	172	133	117	106	95	88
183	404	282	236	205	175	158

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1907-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
30800	49100	74300	90400	110000	124000	137000
WEIGHTED SKEW = -.418						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1907-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	43800	63500	72400	80200	84100	86900
3	31700	45800	52200	58000	61000	63100
7	22000	31900	36800	41400	43900	46000
15	15100	21300	24400	27200	28800	30000
30	11200	15500	17500	19300	20300	21000
60	8780	11900	13300	14600	15300	15800
90	7500	10200	11600	13000	13800	14400

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1907-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
11800	7150	5240	4130	3300	2680	1790	1070	547	271	209	169	137	110	85

LOCATION.--Lat 43°13'10", long 123°16'35", in NE¼SW¼ 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.

PERIOD OF RECORD.--October 1955 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 498.95 ft National Geodetic Vertical Datum of 1929 (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 above station for logponds and many small diversions by pumping for irrigation above station.

AVERAGE DISCHARGE.--18 years. 77.4 ft<sup>3</sup>/s. 56.080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,910 ft<sup>3</sup>/s Dec. 28, 1965, gage height, 14.76 ft, from floodmark, from rating curve extended above 2,200 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 13.38 and 13.67 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of 13.38 ft, from floodmarks, discharge, 6,460 ft<sup>3</sup>/s, from rating curve extended above 2,200 ft<sup>3</sup>/s as explained above.

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STANDARD DEVIATION (CFS)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.8	31	7.6	7.9	1.04	.8
NOVEMBER	4.0	238	65	58	.90	7.0
DECEMBER	11	706	212	182	.86	22.8
JANUARY	20	459	222	138	.62	23.8
FEBRUARY	43	359	167	96	.57	17.9
MARCH	31	320	141	84	.60	15.1
APRIL	19	224	61	48	.78	6.6
MAY	5.3	220	38	50	1.33	4.0
JUNE	3.3	51	11	11	.98	1.2
JULY	.6	7.2	2.8	2.0	.71	.3
AUGUST	.3	2.5	1.3	.7	.57	.1
SEPTEMBER	.5	17	2.9	3.7	1.28	.3
ANNUAL	33	151	77	26	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.2	.1	.1	0.0	--	--
3	.3	.1	.1	0.0	--	--
7	.5	.2	.1	.1	--	--
14	.5	.2	.2	.1	--	--
30	.8	.4	.3	.2	--	--
60	1.3	.7	.6	.4	--	--
90	1.6	1.1	.9	.7	--	--
120	2.3	1.6	1.4	1.2	--	--
183	5.5	3.4	2.7	2.2	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	3680	5630	6870	8350	--	--
WEIGHTED SKEW = -.489						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, 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	2190	3160	3570	3900	--	--
3	1400	1890	2080	2230	--	--
7	836	1200	1400	1590	--	--
15	502	741	889	1060	--	--
30	379	518	591	666	--	--
60	286	378	422	464	--	--
90	228	306	349	396	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
349	200	130	93	70	53	30	16	7.8	3.8	3.0	2.3	1.8	1.2	.6

## UMPQUA RIVER BASIN

14312500 LAKE CREEK NEAR DIAMOND LAKE, OR

LOCATION.--Lat 43°11'10", long 122°09'55", in NW¼SW¼ 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 mi<sup>2</sup>.

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 1982. Prior to October 1971 published as "at Diamond Lake, near Fort Klamath."

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--36 years (water years 1927-29, 1931-53, 1972-77, 1979-82), 56.2 ft<sup>3</sup>/s, 40,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 336 ft<sup>3</sup>/s Jan. 1, 1943, gage height, 2.8 ft, from rating curve extended above 120 ft<sup>3</sup>/s; no flow Aug. 25-27, 1931, Sept. 19, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1927-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	94	41	24	.57	6.0
NOVEMBER	15	133	60	29	.48	8.7
DECEMBER	33	139	77	27	.35	11.2
JANUARY	34	142	82	25	.30	11.9
FEBRUARY	34	140	76	22	.29	11.0
MARCH	29	134	70	22	.31	10.1
APRIL	5.0	106	59	20	.34	8.5
MAY	30	107	60	19	.32	8.7
JUNE	23	149	67	34	.50	9.7
JULY	9.5	81	41	19	.47	6.0
AUGUST	6.2	60	28	12	.44	4.1
SEPTEMBER	7.4	58	28	13	.47	4.0
ANNUAL	37	91	58	17	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1935-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	6.0	2.5	1.5	1.0	.6	--
3	7.5	3.3	2.0	1.4	.8	--
7	9.1	4.4	2.9	2.0	1.3	--
14	13	6.5	4.4	3.0	1.9	--
30	16	10.0	7.5	5.8	4.3	--
60	23	15	12	9.6	7.1	--
90	26	18	15	12	9.4	--
120	30	22	18	15	13	--
183	37	28	24	22	19	--

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

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW = --						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1927-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	120	158	187	225	257	--
3	116	153	179	214	242	--
7	112	144	167	198	221	--
15	102	130	150	175	195	--
30	93	118	134	155	171	--
60	85	107	122	141	156	--
90	80	100	115	133	148	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1927-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
117	100	92	84	78	73	64	55	46	37	33	30	26	21	15

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to September 1945, April 1946 to September 1948.

GAGE.--Water-stage recorder. Datum of gage is 2,373 ft 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 above station.

AVERAGE DISCHARGE.--22 years (water years 1926-45, 1947-48), 875 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft<sup>3</sup>/s Dec. 31, 1942, gage height, 5.90 ft, from rating curve extended above 1,900 ft<sup>3</sup>/s by logarithmic plotting; minimum, 475 ft<sup>3</sup>/s Nov. 27-29, Dec. 12, 14, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1926-48

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	512	820	632	78	.12	6.0
NOVEMBER	494	1095	736	164	.22	7.0
DECEMBER	518	1685	842	260	.31	8.0
JANUARY	570	1513	876	240	.27	8.3
FEBRUARY	584	1350	920	217	.24	8.8
MARCH	675	1307	965	180	.19	9.2
APRIL	665	1741	1129	245	.22	10.7
MAY	749	1741	1248	329	.26	11.9
JUNE	599	2028	1072	362	.34	10.2
JULY	545	1131	776	154	.20	7.4
AUGUST	510	877	675	97	.14	6.4
SEPTEMBER	504	807	636	81	.13	6.1
ANNUAL	635	1246	875	143	.16	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1927-48

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	574	532	514	501	--	--
3	577	534	515	501	--	--
7	581	537	517	503	--	--
14	587	542	522	507	--	--
30	594	547	527	512	--	--
60	603	555	535	520	--	--
90	613	561	538	521	--	--
120	625	568	542	523	--	--
183	670	598	564	538	--	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1926-48

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
1860	2580	3550	4190	4980	--	--	

WEIGHTED SKEW = -.084

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1926-48

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2220	2940	3390	3930	--	--
3	1960	2520	2860	3260	--	--
7	1680	2090	2350	2660	--	--
15	1500	1830	2030	2260	--	--
30	1400	1670	1820	1990	--	--
60	1300	1540	1660	1790	--	--
90	1210	1420	1540	1670	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1926-48

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
1540	1340	1200	1090	1000	938	846	780	720	670	647	622	599	580	553	

## UMPQUA RIVER BASIN

## 14316500 NORTH UMPQUA RIVER ABOVE COPELAND CREEK, NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°17'45", long 122°32'10", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1949 to September 1982. Monthly discharge only September 1949, published in WSP 1318. Prior to October 1952, published as "above Copeland Creek."

GAGE.--Water-stage recorder. Altitude 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. No diversion above station.

AVERAGE DISCHARGE.--33 years, 1,503 ft<sup>3</sup>/s, 1,089,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 19.1 ft, from floodmark, from rating curve extended above 7,200 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 370 ft<sup>3</sup>/s Sept. 30, 1981; minimum daily, 565 ft<sup>3</sup>/s Sept. 13, 1959.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1950-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	758	1568	949	172	.18	5.3
NOVEMBER	805	2298	1310	396	.30	7.3
DECEMBER	803	5163	1845	957	.52	10.2
JANUARY	788	3418	1863	727	.39	10.3
FEBRUARY	670	3254	1846	575	.31	10.2
MARCH	873	4221	1725	591	.34	9.5
APRIL	1065	2876	1857	442	.24	10.3
MAY	1066	3191	2077	547	.26	11.5
JUNE	904	2933	1726	601	.35	9.6
JULY	689	1652	1102	264	.24	6.1
AUGUST	684	1178	904	159	.18	5.0
SEPTEMBER	653	1107	860	122	.14	4.8
ANNUAL	897	2080	1503	307	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1951-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	659	604	582	567	554	--
3	703	628	597	575	553	--
7	738	649	612	585	558	--
14	763	675	637	609	581	--
30	787	697	658	629	600	--
60	816	730	693	666	638	--
90	844	755	715	685	655	--
120	879	782	740	708	676	--
183	1010	880	827	790	754	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1950-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4570	7650	13700	19200	28000	36300	--
WEIGHTED SKEW = .453						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1950-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5870	9900	13300	18400	23000	--
3	4780	7640	10000	13700	16900	--
7	3890	5700	7100	9130	10800	--
15	3180	4290	5060	6070	6840	--
30	2770	3540	4030	4620	5040	--
60	2360	2940	3290	3700	4000	--
90	2200	2680	2960	3270	3490	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1950-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2920	2480	2200	2000	1830	1680	1460	1260	1110	998	944	891	835	779	713

## UMPQUA RIVER BASIN

181

## 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 mi<sup>2</sup>.

PERIOD OF RECORD.--Water year 1956 (annual maximum only), June 1956 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,128.55 ft National Geodetic Vertical Datum of 1929 (levels by Bureau of Public Roads). Oct. 7, 1955, to June 13, 1956, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--26 years, 735 ft<sup>3</sup>/s, 43.97 in/yr, 532,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 25.6 ft, from floodmark, from rating curve extended above 13,000 ft<sup>3</sup>/s on basis of slope-area measurement at 17.96 ft; minimum, 30 ft<sup>3</sup>/s Sept. 15-17, 1973.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	44	536	172	120	.70	1.9
NOVEMBER	77	2887	869	656	.75	9.8
DECEMBER	63	5391	1562	1146	.73	17.6
JANUARY	108	3415	1564	978	.63	17.7
FEBRUARY	141	2861	1367	664	.49	15.4
MARCH	383	2774	1260	661	.52	14.2
APRIL	287	1406	964	304	.32	10.9
MAY	285	1337	626	270	.43	7.1
JUNE	105	544	248	119	.48	2.8
JULY	57	149	91	26	.28	1.0
AUGUST	39	158	61	24	.40	.7
SEPTEMBER	39	187	67	33	.50	.8
ANNUAL	239	1253	735	222	.30	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	32	31	30	30	--
3	36	33	31	31	30	--
7	37	34	32	31	30	--
14	39	35	33	33	32	--
30	42	38	36	35	34	--
60	49	42	40	38	36	--
90	56	48	45	43	41	--
120	71	59	54	51	48	--
183	152	116	100	89	77	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
10000	14400	21300	26500	33900	40000	--
WEIGHTED SKEW = .310						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	11100	16200	18800	21500	23000	--
3	7390	10900	13000	15400	17000	--
7	4900	7190	8570	10200	11200	--
15	3270	4620	5410	6320	6920	--
30	2510	3410	3930	4520	4920	--
60	1990	2700	3120	3600	3940	--
90	1690	2270	2630	3050	3360	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2740	1720	1300	1060	872	731	512	329	187	100	79	66	57	49	41



## UMPQUA RIVER BASIN

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR

LOCATION.--Lat 43°19'40", long 123°00'00", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1924 to September 1945.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft, from river-profile map.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--21 years (water years 1925-45), 2,274 ft<sup>3</sup>/s, 1,648,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft<sup>3</sup>/s Feb. 20, 1927, gage height, 20.18 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s by logarithmic plotting; minimum, 521 ft<sup>3</sup>/s Oct. 16, 1931, gage height, 1.86 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1925-45

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	649	1588	889	252	.28	3.3
NOVEMBER	651	6205	2208	1615	.73	8.1
DECEMBER	943	10250	2928	2070	.71	10.7
JANUARY	818	7197	3377	1738	.51	12.4
FEBRUARY	1338	7162	3684	1754	.48	13.5
MARCH	1399	7259	3402	1469	.43	12.5
APRIL	1321	6063	3430	1283	.37	12.6
MAY	1183	4503	2778	1079	.39	10.2
JUNE	833	4958	1980	1001	.51	7.2
JULY	696	1631	1049	249	.24	3.8
AUGUST	588	1098	813	123	.15	3.0
SEPTEMBER	588	997	774	106	.14	2.8
ANNUAL	1384	3942	2257	672	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1926-45

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	675	608	577	553	--	--
3	678	614	584	561	--	--
7	684	620	590	566	--	--
14	694	630	599	576	--	--
30	706	643	614	592	--	--
60	731	661	630	606	--	--
90	751	677	644	619	--	--
120	779	702	674	655	--	--
183	985	827	765	723	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1925-45

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .255						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1925-45

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	17000	24700	30700	39500	--	--
3	12700	18400	22900	29500	--	--
7	9420	13200	16000	19900	--	--
15	7070	9630	11500	14100	--	--
30	5520	7180	8310	9760	--	--
60	4450	5840	6870	8310	--	--
90	4040	5290	6180	7370	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1925-45

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
6010	4660	3870	3290	2840	2460	1920	1480	1170	934	860	807	756	710	656

## 14317600 ROCK CREEK NEAR GLIDE, OR

LOCATION.--Lat 43°20'45", long 122°59'30", in SE¼SE¼ sec.36, T.25 S., R.3 W., Douglas County, Hydrologic Unit 17100301, 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 mi<sup>2</sup>.

PERIOD OF RECORD.--Water years 1956-57 (annual maximums only), June 1957 to June 1973.

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--15 years (water years 1958-72), 373 ft<sup>3</sup>/s, 52.01 in/yr, 270,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,800 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 20.3 ft, from floodmark, site and datum then in use, from rating curve extended above 5,400 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 14.83 ft; minimum, 14 ft<sup>3</sup>/s Sept. 5-11, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1958-72

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	24	198	94	51	.54	2.1
NOVEMBER	105	833	469	251	.54	10.4
DECEMBER	151	2564	757	601	.79	16.9
JANUARY	118	1609	876	499	.57	19.5
FEBRUARY	317	1254	686	299	.44	15.3
MARCH	221	1338	669	340	.51	14.9
APRIL	164	716	438	157	.36	9.8
MAY	102	679	280	152	.54	6.2
JUNE	47	174	108	39	.36	2.4
JULY	34	87	50	15	.30	1.1
AUGUST	19	45	30	6.6	.22	.7
SEPTEMBER	18	62	33	13	.39	.7
ANNUAL	219	567	373	90	.24	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1959-72

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	17	16	15	--	--
3	20	17	16	15	--	--
7	21	18	16	15	--	--
14	22	19	17	16	--	--
30	24	20	18	17	--	--
60	28	23	21	20	--	--
90	31	26	23	22	--	--
120	39	31	28	26	--	--
183	80	62	53	46	--	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-72

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4290	6520	10400	13600	18400	--	--
WEIGHTED SKEW = .410						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1958-72

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4410	6950	9240	13000	--	--
3	3260	5060	6610	9040	--	--
7	2300	3460	4430	5910	--	--
15	1640	2350	2850	3520	--	--
30	1220	1690	2040	2530	--	--
60	995	1350	1610	1970	--	--
90	855	1110	1300	1560	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1958-72

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1300	877	680	557	460	382	271	174	102	62	47	38	31	27	23

## UMPQUA RIVER BASIN

14318000 LITTLE RIVER AT PEEL, OR

LOCATION.--Lat 43°15'10", long 123°01'30", in NW¼ 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 from Cavitt Creek, and at mile 6.3.

DRAINAGE AREA.--177 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1954 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 828.33 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Small diversions for rural domestic use and irrigation above station.

AVERAGE DISCHARGE.--28 years, 468 ft<sup>3</sup>/s, 35.91 in/yr, 339,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft<sup>3</sup>/s Dec. 11, 1956, gage height, 19.63 ft, from rating curve extended above 5,900 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 16.55 ft; minimum, 14 ft<sup>3</sup>/s Sept. 2, 9, 10, 28, 29, 1967, Sept. 25-27, 1974, Aug. 18, 19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 22, 23, 1953, reached a stage of 20.6 ft, from floodmark, discharge, 22,700 ft<sup>3</sup>/s, from rating curve extended above 5,900 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 16.55 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- TION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	24	366	106	87	.82	1.9
NOVEMBER	41	2162	563	471	.84	10.0
DECEMBER	35	3090	1004	719	.72	17.9
JANUARY	53	2122	1008	609	.60	17.9
FEBRUARY	70	1571	775	338	.44	13.8
MARCH	249	1757	802	393	.49	14.3
APRIL	237	1065	637	207	.32	11.3
MAY	153	956	438	201	.46	7.8
JUNE	58	371	162	86	.53	2.9
JULY	32	105	55	19	.35	1.0
AUGUST	20	89	33	14	.42	.6
SEPTEMBER	17	132	36	22	.60	.6
ANNUAL	158	805	467	145	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1956-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	16	15	14	13	--
3	19	16	15	14	13	--
7	20	17	16	15	14	--
14	20	18	17	16	15	--
30	23	19	18	17	16	--
60	27	22	20	19	18	--
90	32	26	24	23	21	--
120	42	34	30	28	26	--
183	97	69	57	48	40	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
6560	9710	14100	16900	20400	23000	--
WEIGHTED SKEW = -.214						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1955-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6570	9760	11600	13800	15200	--
3	4600	6740	8080	9680	10800	--
7	2980	4370	5280	6430	7280	--
15	2020	2850	3380	4010	4460	--
30	1570	2120	2460	2850	3130	--
60	1240	1690	1960	2270	2490	--
90	1070	1430	1650	1900	2070	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1680	1110	862	702	581	490	342	215	116	60	46	37	31	26	22

## 14318500 NORTH UMPQUA RIVER NEAR GLIDE, OR

LOCATION.--Lat 43°18'20", long 123°07'00", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1915 to March 1919, October 1928 to September 1938.

GAGE.--Staff gage. Altitude 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 above station.

AVERAGE DISCHARGE.--14 years (water years 1916-18, 1929-38), 3,115 ft<sup>3</sup>/s, 2,257,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft<sup>3</sup>/s Mar. 19, 1932, gage height, 17.3 ft; from graph based on gage readings; minimum, 552 ft<sup>3</sup>/s Aug. 27-30, Sept. 27, 1931, gage height, 0.84 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 22.6 ft Nov. 22, 1909, discharge, 94,000 ft<sup>3</sup>/s, from rating curve extended above 40,000 ft<sup>3</sup>/s by logarithmic plotting.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1916-38

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	712	1502	957	229	.24	2.6
NOVEMBER	664	5826	2590	1824	.70	6.9
DECEMBER	1159	6869	3703	1715	.46	9.9
JANUARY	992	10290	4807	2496	.52	12.8
FEBRUARY	1772	10260	4708	2485	.53	12.6
MARCH	2525	11730	5692	2377	.42	15.2
APRIL	1976	9309	5409	2099	.39	14.4
MAY	1346	7629	3888	1763	.45	10.4
JUNE	1049	6406	2650	1608	.61	7.1
JULY	743	2497	1324	548	.41	3.5
AUGUST	613	1270	915	192	.21	2.4
SEPTEMBER	624	1087	835	141	.17	2.2
ANNUAL	1879	4283	3114	799	.26	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1917-38

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	716	630	592	564	--	--
3	723	635	595	565	--	--
7	730	642	603	573	--	--
14	742	653	612	581	--	--
30	760	671	629	596	--	--
60	787	689	644	610	--	--
90	818	708	657	618	--	--
120	860	742	689	649	--	--
183	1180	919	819	750	--	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1916-38

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
26800	34600	44400	50500	57700	--	--
WEIGHTED SKEW = -.085						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1916-38

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	27500	36400	42800	51700	--	--
3	19200	26300	32200	41000	--	--
7	14700	19100	22200	26100	--	--
15	10900	13700	15600	18100	--	--
30	8570	10200	11000	12000	--	--
60	6980	8320	9050	9830	--	--
90	6180	7420	8070	8730	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1916-38

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
8610	6680	5700	4940	4230	3640	2750	1950	1380	1060	964	892	826	765	697

## UMPQUA RIVER BASIN

14319200 SUTHERLIN CREEK AT SUTHERLIN, OR

LOCATION.--Lat 43°23'20", long 123°18'10", in SW¼ 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 mi<sup>2</sup>.

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 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 above station.

AVERAGE DISCHARGE.--12 years, 25.9 ft<sup>3</sup>/s, 18,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,250 ft<sup>3</sup>/s Feb. 10, 1961, gage height, 7.64 ft, datum then in use, from rating curve extended above 750 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-67

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	18	2.3	5.1	2.22	.7
NOVEMBER	.4	107	26	30	1.14	8.3
DECEMBER	2.6	236	73	71	.97	23.2
JANUARY	6.4	134	67	47	.71	21.5
FEBRUARY	13	154	65	43	.67	20.8
MARCH	5.9	96	48	29	.59	15.3
APRIL	3.1	64	17	17	1.01	5.5
MAY	.5	50	13	17	1.31	4.1
JUNE	0.0	7.8	1.3	2.1	1.65	.4
JULY	0.0	.2	0.0	.1	2.00	0.0
AUGUST	0.0	0.0	0.0	0.0	--	0.0
SEPTEMBER	0.0	5.7	.5	1.7	3.46	.2
ANNUAL	17	51	26	8.7	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.8	.2	.1	0.0	--	--

NOTE: LOW-FLOW DATA UNCERTAIN DUE TO EXCESSIVE ZERO  
EVENTS.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-67

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
907	1340	1920	2300	--	--	--

WEIGHTED SKEW = -.249

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-67

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	864	1240	1490	--	--	--
3	570	737	816	--	--	--
7	336	441	498	--	--	--
15	198	267	312	--	--	--
30	135	180	210	--	--	--
60	94	124	148	--	--	--
90	73	96	115	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-67

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
122	61	38	28	21	16	7.2	2.4	.5	0.0	0.0	0.0	0.0	0.0	0.0

## 14319500 NORTH UMPQUA RIVER AT WINCHESTER, OR

LOCATION.--Lat 43°16'20", long 123°24'40", in NW¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1908 to December 1913, October 1923 to September 1929, August 1954 to September 1982. Prior to December 1908, monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 372.97 ft 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 above station.

AVERAGE DISCHARGE.--39 years, 3,730 ft<sup>3</sup>/s, 37.69 in/yr, 2,702,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 34.2 ft, from floodmark; minimum, 383 ft<sup>3</sup>/s Sept. 25, 1960; minimum daily, 578 ft<sup>3</sup>/s Sept. 14, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reach a stage of 23.2 ft, from floodmark, at site 4.8 mi upstream at different datum, discharge, 88,000 ft<sup>3</sup>/s. Flood of Nov. 23, 1953, reach a stage of 28.4 ft, from floodmarks, present site and datum, discharge, 93,300 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1909-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	855	2752	1375	436	.32	3.1
NOVEMBER	1070	12550	4193	2800	.67	9.3
DECEMBER	1005	23640	6367	4587	.72	14.2
JANUARY	1125	15220	6983	3824	.55	15.6
FEBRUARY	1019	12130	6167	2546	.41	13.7
MARCH	2245	12880	5555	2476	.45	12.4
APRIL	1605	7246	4718	1433	.30	10.5
MAY	1401	7147	3801	1258	.33	8.5
JUNE	913	4249	2407	900	.37	5.4
JULY	717	2824	1336	387	.29	3.0
AUGUST	698	1578	1002	196	.20	2.2
SEPTEMBER	708	1398	984	168	.17	2.2
ANNUAL	1639	6116	3729	1021	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1910-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	739	664	631	606	580	--
3	777	694	658	630	603	--
7	813	723	681	650	618	--
14	840	749	707	675	641	--
30	872	776	732	697	661	--
60	927	822	772	734	693	--
90	984	867	811	766	719	--
120	1070	934	871	821	768	--
183	1470	1200	1080	982	885	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1909-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
32100	47900	71600	88400	111000	128000	--
WEIGHTED SKEW = .016						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1909-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	38400	57200	68300	81000	89400	--
3	27500	41500	50600	62000	70200	--
7	18800	27800	33800	41400	47200	--
15	13200	18600	22300	26900	30300	--
30	10300	13900	16200	19100	21300	--
60	8190	11100	13000	15400	17200	--
90	7190	9510	11000	12900	14300	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1909-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
11100	7510	6000	5110	4430	3930	3140	2430	1730	1310	1170	1070	981	891	797

## UMPQUA RIVER BASIN

14320700 CALAPOOYA CREEK NEAR OAKLAND, OR

LOCATION.--Lat 43°24'10", long 123°21'45", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 371.26 ft National Geodetic, Vertical Datum of 1929. Prior to June 22, 1968, nonrecording gage at same site and datum.

REMARKS.--No regulation. Diversion above station for municipal supply of cities of Sutherlin and Oakland. Small diversions by pumping for irrigation above station.

AVERAGE DISCHARGE.--18 years, 495 ft<sup>3</sup>/s, 32.01 in/yr, 358,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft<sup>3</sup>/s Nov. 23, 1961, gage height, 21.55 ft; no flow Sept. 9-11, 1966.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	18	329	76	73	.96	1.3
NOVEMBER	62	1240	510	349	.68	8.6
DECEMBER	108	3856	1243	977	.79	20.9
JANUARY	120	2296	1261	727	.58	21.2
FEBRUARY	290	2229	1004	520	.52	16.9
MARCH	208	1912	943	508	.54	15.8
APRIL	211	1342	478	278	.58	8.0
MAY	58	912	288	230	.80	4.8
JUNE	25	233	95	53	.56	1.6
JULY	9.1	60	27	16	.57	.5
AUGUST	2.6	29	12	6.7	.56	.2
SEPTEMBER	4.3	35	16	8.4	.52	.3
ANNUAL	250	905	495	146	.29	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	6.4	3.3	2.1	1.4	--	--
14	7.2	4.3	3.1	2.3	--	--
30	8.4	5.2	3.9	2.9	--	--
60	12	7.2	5.3	4.0	--	--
90	14	9.8	7.8	6.3	--	--
120	22	15	12	10	--	--
183	58	39	31	26	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7810	12500	19300	23800	29500	--	--
WEIGHTED SKEW = -.305						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-73

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8540	12300	14400	16400	--	--
3	6170	8550	9720	10800	--	--
7	4070	5770	6790	7960	--	--
15	2730	3800	4440	5200	--	--
30	2010	2680	3090	3580	--	--
60	1570	2080	2400	2800	--	--
90	1330	1710	1930	2190	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2090	1330	952	706	542	424	267	150	79	40	28	20	15	11	7.1

## UMPQUA RIVER BASIN

189

## 14321000 UMPQUA RIVER NEAR ELKTON, OR

LOCATION.--Lat 43°35'10", long 123°33'15", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1905 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.42 ft 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 above station.

AVERAGE DISCHARGE.--77 years, 7,480 ft<sup>3</sup>/s, 27.58 in/yr, 5,419,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 265,000 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 51.95 ft, from floodmarks, minimum observed, 640 ft<sup>3</sup>/s July 18, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least December 1861, that of Dec. 23, 1964.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	857	14200	1914	1701	.89	2.1
NOVEMBER	832	29500	7042	5653	.80	7.8
DECEMBER	1238	51220	13390	9648	.72	14.8
JANUARY	1440	34900	16300	8854	.54	18.1
FEBRUARY	1365	32800	15150	6710	.44	16.8
MARCH	3462	27100	12360	5563	.45	13.7
APRIL	2432	20480	9633	4012	.42	10.7
MAY	1934	15800	6516	2901	.45	7.2
JUNE	1053	9526	3767	1841	.49	4.2
JULY	742	5063	1740	733	.42	1.9
AUGUST	703	1867	1173	258	.20	1.3
SEPTEMBER	740	3475	1188	339	.29	1.3
ANNUAL	2321	13360	7480	2279	.30	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	964	839	776	727	674	639
3	978	850	786	735	679	643
7	994	863	797	745	687	650
14	1010	876	810	757	700	663
30	1040	899	829	773	713	675
60	1100	946	870	809	743	701
90	1170	996	910	841	767	720
120	1280	1070	970	893	814	764
183	2030	1530	1320	1160	1000	907

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
64200	95000	140000	172000	213000	244000	276000
WEIGHTED SKEW = -.029						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	82200	122000	146000	174000	194000	212000
3	62600	91600	110000	131000	145000	159000
7	45100	63600	74500	86900	95300	103000
15	31900	43300	49800	56900	61600	65800
30	24400	32400	36700	41300	44200	46800
60	19300	25500	29000	32700	35100	37200
90	16800	22200	25200	28600	30900	32900

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
25000	17600	13700	11100	9270	7860	5720	4000	2490	1580	1410	1270	1160	1060	936



## UMPQUA RIVER BASIN

14322000 ELK CREEK NEAR DRAIN, OR

LOCATION.--Lat 43°38'30", long 123°17'50", in NE¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 305.96 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Small diversions by pumping for irrigation above station. Municipal supply for town of Yoncalla is diverted from Wilson Creek above station.

AVERAGE DISCHARGE.--18 years, 222 ft<sup>3</sup>/s, 29.90 in/yr, 165,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft<sup>3</sup>/s Feb. 10, 1961, gage height, 23.7 ft, from floodmark, from rating curve extended above 7,500 ft<sup>3</sup>/s; no flow at times.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1956-73

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.5	99	21	24	1.11	.8
NOVEMBER	8.6	611	217	177	.82	8.1
DECEMBER	33	1869	582	476	.82	21.8
JANUARY	67	1212	619	377	.61	23.2
FEBRUARY	126	1375	498	325	.65	18.6
MARCH	83	807	408	236	.58	15.3
APRIL	63	649	182	142	.78	6.8
MAY	19	361	102	91	.89	3.8
JUNE	6.7	63	30	15	.51	1.1
JULY	.9	18	7.2	5.3	.74	.3
AUGUST	.1	12	2.4	2.7	1.12	.1
SEPTEMBER	.9	10	3.5	2.7	.76	.1
ANNUAL	106	404	222	69	.31	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1957-73

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.2	0.0	0.0	0.0	--	--
3	.3	.1	0.0	0.0	--	--
7	.5	.2	.1	0.0	--	--
14	.7	.3	.2	.1	--	--
30	1.3	.6	.3	.1	--	--
60	2.0	1.0	.7	.5	--	--
90	3.0	1.7	1.3	1.0	--	--
120	5.2	3.2	2.4	1.9	--	--
183	16	9.7	7.4	6.0	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	6310	10600	13700	17900	--	--
WEIGHTED SKEW = -.243						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1956-73

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4630	7100	8620	10400	--	--
3	3250	4820	5730	6710	--	--
7	2170	3160	3760	4440	--	--
15	1410	2000	2370	2790	--	--
30	996	1360	1590	1870	--	--
60	762	1020	1190	1390	--	--
90	628	829	953	1100	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1956-73

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1010	580	393	270	204	157	85	52	26	11	6.9	4.7	3.1	1.8	.8

## TENMILE CREEK BASIN

191

## 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 mi<sup>2</sup> 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 above station. Records given herein are for measuring site.

AVERAGE DISCHARGE.--19 years (water years 1958-76), 338 ft<sup>3</sup>/s, 244,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft<sup>3</sup>/s Dec. 26, 1964, elevation 16.46 ft at base gage, 18.78 ft at auxiliary gage; minimum, 2.0 ft<sup>3</sup>/s Aug. 29, Sept. 2, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum known stage at auxiliary gage, 19.83 ft in January 1953, from floodmarks.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1958-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.6	177	45	46	1.02	1.1
NOVEMBER	50	1159	312	280	.90	7.7
DECEMBER	161	1503	724	376	.52	17.8
JANUARY	178	1393	875	377	.43	21.5
FEBRUARY	270	1325	738	268	.36	18.1
MARCH	246	1149	603	264	.44	14.8
APRIL	191	958	401	197	.49	9.8
MAY	91	511	212	109	.51	5.2
JUNE	41	219	90	40	.44	2.2
JULY	20	85	40	17	.42	1.0
AUGUST	5.3	42	20	9.1	.47	.5
SEPTEMBER	4.3	78	18	18	.98	.5
ANNUAL	189	568	338	80	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1959-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.0	4.6	3.3	2.5	--	--
3	8.2	4.6	3.4	2.6	--	--
7	8.5	4.9	3.6	2.8	--	--
14	9.1	5.2	3.9	3.0	--	--
30	11	6.5	4.8	3.8	--	--
60	13	8.0	6.4	5.3	--	--
90	16	10	8.1	6.8	--	--
120	22	15	12	9.7	--	--
183	53	36	30	25	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1958-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1620	2220	2910	3300	3730	--	--
WEIGHTED SKEW = -.511						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1958-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2210	2830	3140	3450	--	--
3	2120	2710	3010	3310	--	--
7	1870	2380	2650	2930	--	--
15	1480	1870	2080	2310	--	--
30	1150	1420	1580	1760	--	--
60	954	1190	1330	1490	--	--
90	841	1050	1170	1300	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1958-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1240	915	716	590	490	409	277	153	87	47	34	24	17	13	9.4

## COOS RIVER BASIN

14324500 WEST FORK MILLICOMA RIVER NEAR ALLEGANY, OR

LOCATION.--Lat 43°28'35", long 124°03'20", in SW¼NW¼ 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 mi<sup>2</sup>, at cableway 300 ft downstream.

PERIOD OF RECORD.--September 1954 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 76.95 ft National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Only minor diversions for irrigation above station.

AVERAGE DISCHARGE.--27 years (water years 1955-81), 249 ft<sup>3</sup>/s, 72.10 in/yr, 180,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft<sup>3</sup>/s Nov. 24, 1960, gage height, 15.86 ft; minimum, 1.8 ft<sup>3</sup>/s Sept. 5, 9, 1965, Sept. 8-10, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January or November 1953 reached a stage of about 17.9 ft, from information by local resident. Flood in December 1981 reached a stage of 15.45 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1955-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	4.2	290	80	75	.94	2.7
NOVEMBER	40	1065	369	252	.68	12.3
DECEMBER	34	1357	630	331	.53	21.0
JANUARY	53	1066	581	319	.55	19.4
FEBRUARY	137	1152	485	237	.49	16.2
MARCH	117	809	417	192	.46	13.9
APRIL	83	571	239	125	.52	8.0
MAY	27	358	111	78	.70	3.7
JUNE	16	146	44	29	.65	1.5
JULY	7.6	36	15	7.0	.46	.5
AUGUST	3.4	57	9.9	10	1.04	.3
SEPTEMBER	2.5	98	21	24	1.17	.7
ANNUAL	84	385	249	63	.25	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1956-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	3.6	2.4	2.0	1.7	1.5	--
3	3.6	2.5	2.1	1.8	1.5	--
7	3.9	2.7	2.2	1.9	1.6	--
14	4.1	2.9	2.4	2.1	1.8	--
30	4.9	3.4	2.9	2.5	2.1	--
60	6.6	4.4	3.6	3.1	2.6	--
90	8.9	5.8	4.9	4.3	3.8	--
120	12	8.3	7.0	6.1	5.4	--
183	35	23	18	15	12	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1955-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--
WEIGHTED SKEW = -.595						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1955-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3680	4940	5630	6360	6820	--
3	2770	3630	4100	4600	4930	--
7	1910	2490	2820	3200	3450	--
15	1260	1610	1820	2080	2270	--
30	942	1170	1310	1470	1580	--
60	731	939	1060	1210	1300	--
90	645	807	889	971	1020	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1955-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1060	669	478	355	269	212	134	82	44	24	18	13	8.8	6.4	4.4

14324600 SOUTH FORK COQUILLE RIVER ABOVE PANTHER CREEK, NEAR ILLAHE, OR

LOCATION.--Lat 42°45'30", long 123°59'10", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1956 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 2,117.30 ft National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--14 years, 144 ft<sup>3</sup>/s, 62.68 in/yr, 104,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,840 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 17.07 ft, from floodmarks, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 12.75 ft; minimum, 0.94 ft<sup>3</sup>/s Sept. 28, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of about 15.7 ft, discharge, about 6,300 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.5	162	34	44	1.31	1.9
NOVEMBER	13	270	150	92	.61	8.6
DECEMBER	45	846	303	221	.73	17.5
JANUARY	48	740	359	226	.63	20.7
FEBRUARY	163	734	335	163	.49	19.3
MARCH	78	470	267	112	.42	15.4
APRIL	57	381	161	84	.52	9.3
MAY	20	275	90	74	.82	5.2
JUNE	7.8	40	21	8.3	.39	1.2
JULY	5.2	12	7.6	2.4	.32	.4
AUGUST	1.7	6.3	3.4	1.4	.40	.2
SEPTEMBER	1.5	8.7	3.5	2.2	.62	.2
ANNUAL	109	185	144	21	.14	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1.5	1.2	1.1	1.1	--	--
3	1.5	1.2	1.2	1.1	--	--
7	1.6	1.4	1.3	1.2	--	--
14	1.7	1.4	1.3	1.3	--	--
30	2.0	1.6	1.5	1.5	--	--
60	2.7	2.1	1.9	1.8	--	--
90	3.7	3.0	2.6	2.4	--	--
120	5.6	4.3	3.7	3.3	--	--
183	16	10	8.0	6.7	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2820	3670	4860	5670	6720	--	--
WEIGHTED SKEW = .234						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2350	3100	3870	5210	--	--
3	1760	2370	2930	3830	--	--
7	1220	1650	1990	2470	--	--
15	812	1030	1180	1370	--	--
30	581	706	793	908	--	--
60	445	545	613	702	--	--
90	375	456	509	575	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
567	366	269	208	163	129	80	43	23	11	7.1	5.1	3.7	2.6	1.9

## COQUILLE RIVER BASIN

14324700 SOUTH FORK COQUILLE RIVER NEAR ILLAHE, OR

LOCATION.--Lat 42°43'30", long 124°00'40", in NW¼ 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 mi<sup>2</sup>, 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 National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion above station. Records given herein are for measuring site.

AVERAGE DISCHARGE.--18 years, 199 ft<sup>3</sup>/s, 66.56 in/yr, 144,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.80 ft, from rating curve extended above 3,000 ft<sup>3</sup>/s, on basis of slope-area measurement at gage height 9.54 ft; minimum, 1.2 ft<sup>3</sup>/s Sept. 27-29, 1967, Sept. 28-30, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of about 10.8 ft, discharge, about 8,600 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-74

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3.5	204	38	50	1.30	1.6
NOVEMBER	15	951	255	215	.84	10.6
DECEMBER	55	1164	438	277	.63	18.2
JANUARY	72	992	498	271	.54	20.7
FEBRUARY	181	997	413	215	.52	17.2
MARCH	95	708	377	154	.41	15.7
APRIL	73	480	226	110	.49	9.4
MAY	25	364	109	92	.85	4.5
JUNE	10	54	27	11	.42	1.1
JULY	5.7	16	10	3.2	.32	.4
AUGUST	2.6	8.1	4.7	1.7	.35	.2
SEPTEMBER	1.7	12	5.3	3.1	.59	.2
ANNUAL	133	308	199	43	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-74

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.1	1.6	1.5	1.4	--	--
3	2.1	1.7	1.5	1.4	--	--
7	2.3	1.8	1.6	1.5	--	--
14	2.5	1.9	1.7	1.6	--	--
30	2.8	2.3	2.0	1.9	--	--
60	3.8	3.0	2.7	2.5	--	--
90	5.1	4.0	3.5	3.2	--	--
120	7.3	5.5	4.8	4.2	--	--
183	20	13	11	9.1	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-74

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .244						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-74

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3260	4540	5580	7120	--	--
3	2430	3340	4050	5100	--	--
7	1670	2210	2600	3130	--	--
15	1090	1360	1530	1740	--	--
30	775	947	1060	1210	--	--
60	607	749	842	958	--	--
90	508	626	704	802	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-74

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
861	515	366	287	226	180	107	57	30	14	9.3	7.0	5.2	3.8	2.8

## COQUILLE RIVER BASIN

195

14324900 SOUTH FORK COQUILLE RIVER NEAR POWERS, OR

LOCATION.--Lat 42°47'05", long 124°02'25", in SW¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1956 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 585.32 ft National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--14 years, 514 ft<sup>3</sup>/s, 74.89 in/yr, 372,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 23.00 ft, from floodmarks, from rating curve extended above 9,300 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 6.5 ft<sup>3</sup>/s Oct. 3-5, 1960.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1957-70

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	19	585	150	159	1.06	2.4
NOVEMBER	60	1181	611	342	.56	9.8
DECEMBER	192	3246	1115	819	.73	18.0
JANUARY	206	2695	1260	786	.62	20.3
FEBRUARY	517	2560	1172	595	.51	18.9
MARCH	217	1711	898	410	.46	14.5
APRIL	201	1294	522	280	.54	8.4
MAY	76	901	316	243	.77	5.1
JUNE	36	152	83	29	.35	1.3
JULY	26	53	36	7.9	.22	.6
AUGUST	12	42	21	7.5	.36	.3
SEPTEMBER	11	43	23	10	.44	.4
ANNUAL	420	675	514	77	.15	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	9.7	8.2	7.2	--	--
3	13	9.9	8.5	7.4	--	--
7	13	10	8.9	7.9	--	--
14	14	11	9.3	8.3	--	--
30	15	12	11	10	--	--
60	17	15	14	14	--	--
90	22	18	17	16	--	--
120	30	24	22	20	--	--
183	71	48	39	33	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-70

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9850	12700	16700	19300	22800	--	--
WEIGHTED SKEW = .227						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-70

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7900	10900	14100	20000	--	--
3	5960	8060	10200	13900	--	--
7	4240	5800	7080	9010	--	--
15	2870	3740	4350	5180	--	--
30	2030	2520	2890	3400	--	--
60	1560	1950	2230	2610	--	--
90	1320	1620	1830	2090	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-70

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
2150	1290	916	706	560	447	285	164	94	50	36	29	22	18	15

## COQUILLE RIVER BASIN

14325000 SOUTH FORK COQUILLE RIVER AT POWERS, OR

LOCATION.--Lat 42°53'30", long 124°04'10", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1916 to September 1926, December 1928 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 197.42 ft 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 above station.

AVERAGE DISCHARGE.--63 years (water years 1917-26, 1930-82), 789 ft<sup>3</sup>/s, 63.40 in/yr, 571,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,900 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 26.51 ft, from floodmarks, from rating curve extended above 19,000 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 18.14 ft and slope-area measurement of peak flow; minimum, 12 ft<sup>3</sup>/s Sept. 22-25, 27-30, 1939, Oct. 5, 1961, Oct. 16-20, 1974.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1917-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	16	1945	220	338	1.54	2.3
NOVEMBER	16	4232	1018	847	.83	10.7
DECEMBER	44	5361	1739	1078	.62	18.3
JANUARY	97	4244	1843	1053	.57	19.4
FEBRUARY	209	4151	1639	795	.49	17.3
MARCH	330	3818	1322	666	.50	13.9
APRIL	216	2451	943	525	.56	9.9
MAY	78	1568	456	345	.76	4.8
JUNE	51	699	162	113	.70	1.7
JULY	28	186	61	28	.46	.6
AUGUST	17	101	34	13	.39	.4
SEPTEMBER	16	385	46	54	1.20	.5
ANNUAL	237	1374	789	238	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1918-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	15	14	13	11	11
3	19	15	14	13	12	11
7	20	16	14	13	12	11
14	21	17	15	14	13	12
30	23	18	17	15	14	14
60	27	21	19	17	16	15
90	32	25	22	20	18	17
120	43	31	27	24	21	20
183	105	68	53	44	35	30

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1917-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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 15200 22000 26600 32400 36800 41100

WEIGHTED SKEW = -.100

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1917-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	11100	15700	19000	23200	26400	29800
3	7970	11600	14200	17700	20500	23500
7	5630	7960	9560	11600	13200	14900
15	3960	5350	6250	7360	8170	8970
30	2930	3870	4440	5100	5560	5990
60	2280	3000	3410	3880	4200	4500
90	1980	2580	2930	3320	3580	3820

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1917-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3250	2050	1480	1160	928	745	465	260	134	67	50	40	32	27	21

## 14326500 MIDDLE FORK COQUILLE RIVER NEAR MYRTLE POINT, OR

LOCATION.--Lat 43°01'30", long 124°05'20", in NW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to September 1946.

GAGE.--Water-stage recorder. Datum of gage is 41.20 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1930, staff gage at same site and datum.

REMARKS.--No diversion above station. Flow regulated during winter and spring months by operation of log ponds.

AVERAGE DISCHARGE.--16 years, 743 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,600 ft<sup>3</sup>/s Jan. 2, 1933, gage height, 22.5 ft, from rating curve extended above 9,000 ft<sup>3</sup>/s; minimum daily, 1.0 ft<sup>3</sup>/s July 16, 17, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about Oct. 31, 1924, reached a stage of 25.8 ft, discharge, 31,800 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1931-46

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	9.1	225	67	65	.98	.7
NOVEMBER	11	2552	824	749	.91	9.2
DECEMBER	81	3960	1607	1199	.75	17.9
JANUARY	600	4218	1801	968	.54	20.1
FEBRUARY	419	3922	1837	979	.53	20.5
MARCH	215	4088	1452	930	.64	16.2
APRIL	198	1919	755	428	.57	8.4
MAY	73	1386	371	321	.87	4.1
JUNE	59	341	158	97	.62	1.8
JULY	28	124	55	28	.51	.6
AUGUST	12	41	24	9.2	.39	.3
SEPTEMBER	11	86	25	19	.78	.3
ANNUAL	356	1250	743	244	.33	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1932-46

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	12	5.9	3.5	2.1	--	--
3	13	6.7	4.2	2.6	--	--
7	12	7.3	5.2	3.9	--	--
14	13	8.0	6.1	4.8	--	--
30	14	11	9.2	8.3	--	--
60	17	12	11	10	--	--
90	20	15	13	11	--	--
120	29	20	17	14	--	--
183	79	48	36	28	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1931-46

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
9920	14000	19400	22900	27100	--	--
WEIGHTED SKEW = -.183						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1931-46

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	10500	14400	16900	19800	--	--
3	7530	10300	12100	14200	--	--
7	5700	7760	8890	10100	--	--
15	4350	5880	6640	7380	--	--
30	3090	3950	4380	4790	--	--
60	2470	3160	3500	3850	--	--
90	2100	2740	3080	3430	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1931-46

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3330	2010	1450	1080	809	624	366	208	97	47	33	25	19	15	12



LOCATION.--Lat 43°11'03", long 124°04'33", in SW¼SE¼ 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.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 79.72 ft 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 above station.

AVERAGE DISCHARGE.--18 years. 281 ft<sup>3</sup>/s. 51.57 in./yr. 203,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,760 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 9, 10, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1981 reached a stage of 14.86 ft from flood mark, discharge, 8,350 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1965-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, 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	4.1	2.9	2.4	2.1	--	--
3	4.2	3.0	2.5	2.2	--	--
7	4.5	3.3	2.8	2.6	--	--
14	5.0	3.6	3.1	2.8	--	--
30	5.6	4.1	3.6	3.3	--	--
60	7.8	5.4	4.6	4.1	--	--
90	9.9	6.9	5.9	5.3	--	--
120	14	9.7	8.4	7.5	--	--
183	34	25	21	18	--	--

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1964-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, 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	3340	4720	5530	6440	--	--
3	2700	3620	4120	4630	--	--
7	2030	2720	3130	3590	--	--
15	1390	1830	2110	2420	--	--
30	1080	1370	1530	1690	--	--
60	850	1120	1260	1400	--	--
90	746	974	1090	1190	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1170	763	554	418	325	260	166	98	52	26	19	14	11	7.3	5.1

## 14327000 NORTH FORK COQUILLE RIVER NEAR MYRTLE POINT, OR

LOCATION.--Lat 43°04'15", long 124°06'20", in SE¼ 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 mi<sup>2</sup>.

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 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 above station.

AVERAGE DISCHARGE.--22 years (water years 1930-46, 1964-68), 945 ft<sup>3</sup>/s, 684,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,400 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 37.67 ft; minimum observed, 1.2 ft<sup>3</sup>/s Aug. 12, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 41.2 ft sometime during winter of 1909-10. Flood of Dec. 26, 1955, reached a stage of 37.0 ft, discharge, 20,000 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1930-68

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	22	500	134	121	.90	1.2
NOVEMBER	24	3247	1124	925	.82	9.9
DECEMBER	342	6110	2096	1469	.70	18.4
JANUARY	854	4762	2479	1150	.46	21.8
FEBRUARY	530	3781	2056	949	.46	18.1
MARCH	427	3949	1670	905	.54	14.7
APRIL	276	2404	912	500	.55	8.0
MAY	125	1687	470	323	.69	4.1
JUNE	83	986	259	216	.83	2.3
JULY	48	183	92	43	.47	.8
AUGUST	11	80	45	21	.47	.4
SEPTEMBER	15	219	50	45	.90	.4
ANNUAL	517	1383	945	261	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1931-68

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	13	9.0	6.6	--	--
3	23	13	9.7	7.3	--	--
7	24	14	11	8.2	--	--
14	25	15	12	9.0	--	--
30	28	18	14	11	--	--
60	32	22	18	16	--	--
90	39	28	24	22	--	--
120	53	38	33	30	--	--
183	126	87	72	62	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1930-68

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
8540	13300	21200	27500	36500	--	--	
WEIGHTED SKEW = .237							

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1930-68

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	8920	13800	18600	26800	--	--
3	7530	10900	13900	18700	--	--
7	6220	8620	10400	12900	--	--
15	4930	6620	7590	8660	--	--
30	3600	4680	5300	5990	--	--
60	2890	3690	4120	4600	--	--
90	2560	3270	3650	4060	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1930-68

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
4190	2650	1860	1430	1120	891	558	342	184	95	69	53	41	31	24	

## ROGUE RIVER BASIN

14327500 ROGUE RIVER ABOVE BYBEE CREEK, NEAR UNION CREEK, OR

LOCATION.--Lat 42°56'05", long 122°25'15", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1930 to September 1952.

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--22 years (water years 1931-52), 498 ft<sup>3</sup>/s, 360,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,430 ft<sup>3</sup>/s Nov. 29, 1942 and Dec. 28, 1945, gage height, 7.84 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s by logarithmic plotting; minimum daily, 180 ft<sup>3</sup>/s Jan. 7, 1937.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1931-52

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	227	564	317	85	.27	5.3
NOVEMBER	234	803	414	151	.36	6.9
DECEMBER	254	1041	481	203	.42	8.0
JANUARY	238	729	448	144	.32	7.5
FEBRUARY	248	820	445	141	.32	7.4
MARCH	317	758	500	124	.25	8.4
APRIL	481	1022	735	156	.21	12.3
MAY	373	1389	916	291	.32	15.3
JUNE	271	1663	718	335	.47	12.0
JULY	222	666	391	107	.27	6.5
AUGUST	204	467	315	63	.20	5.3
SEPTEMBER	204	426	300	54	.18	5.0
ANNUAL	313	692	498	97	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LDW FLOW  
BASED ON PERIOD OF RECORD 1932-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	257	219	201	188	--	--
3	263	227	210	198	--	--
7	267	233	217	205	--	--
14	272	237	221	209	--	--
30	277	242	226	213	--	--
60	285	247	230	216	--	--
90	293	253	234	220	--	--
120	301	259	241	227	--	--
183	334	282	261	246	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1931-52

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .324						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1931-52

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1850	2560	3030	3640	--	--
3	1540	2050	2380	2770	--	--
7	1300	1680	1920	2230	--	--
15	1160	1480	1670	1900	--	--
30	1050	1320	1470	1650	--	--
60	934	1140	1240	1350	--	--
90	824	988	1080	1170	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1931-52

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1140	918	765	657	578	521	446	395	355	322	307	290	275	262	242

14328000 ROGUE RIVER ABOVE PROSPECT, OR

LOCATION.--Lat 42°46'30", long 122°29'55", in SE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1908 to February 1912, October 1923 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1925, published as "near Prospect."

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--62 years (water years 1909-11, 1924-82), 820 ft<sup>3</sup>/s, 35.69 in/yr, 594,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.55 ft, from floodmark, from rating curve extended above 9,000 ft<sup>3</sup>/s on basis of slope-area measurement at 16,600 ft<sup>3</sup>/s; minimum observed, 200 ft<sup>3</sup>/s Nov. 20, 1931.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1909-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	283	957	453	118	.26	4.6
NOVEMBER	292	2062	707	334	.47	7.2
DECEMBER	313	3368	929	555	.60	9.4
JANUARY	292	2158	920	444	.48	9.3
FEBRUARY	325	2093	949	385	.41	9.6
MARCH	480	2820	946	356	.38	9.6
APRIL	649	1888	1177	322	.27	12.0
MAY	491	2263	1372	484	.35	13.9
JUNE	335	2564	992	455	.46	10.1
JULY	253	1010	545	164	.30	5.5
AUGUST	222	659	439	102	.23	4.5
SEPTEMBER	230	602	419	88	.21	4.3
ANNUAL	411	1268	821	199	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1910-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	357	297	269	248	226	213
3	367	306	278	256	233	219
7	371	311	284	263	241	227
14	377	316	288	267	245	231
30	386	323	294	272	250	235
60	396	332	303	281	257	243
90	408	341	309	286	260	245
120	422	351	319	294	269	253
183	498	402	360	329	297	278

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1909-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3060	4770	7660	9930	13200	16000	19100
WEIGHTED SKEW = .239						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1909-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4130	6470	8180	10500	12300	14200
3	3310	5090	6410	8250	9740	11300
7	2590	3730	4520	5580	6390	7240
15	2080	2790	3240	3790	4180	4570
30	1760	2270	2560	2900	3130	3340
60	1480	1870	2080	2320	2480	2620
90	1330	1640	1810	1990	2110	2220

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1909-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1920	1520	1290	1120	991	891	739	636	550	477	444	418	389	358	323

## ROGUE RIVER BASIN

## 14330000 ROGUE RIVER BELOW PROSPECT, OR

LOCATION.--Lat 42°43'50", long 122°30'55", in SE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1913 to September 1930, October 1968 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,964.56 ft 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.--Small fluctuations caused by powerplant 600 ft above station. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--14 years (water years 1969-82), 1,508 ft<sup>3</sup>/s, 1,092,546 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft<sup>3</sup>/s Jan. 18, 1971, gage height, 7.62 ft, from high-water mark; minimum, 205 ft<sup>3</sup>/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 ft<sup>3</sup>/s, from records for station above Prospect and for station below South Fork Rogue River near Prospect after adjusting for estimated intervening tributary inflow.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	795	1230	978	160	.16	5.4
NOVEMBER	868	2100	1308	333	.25	7.2
DECEMBER	979	2736	1668	555	.33	9.2
JANUARY	946	2894	1833	583	.32	10.1
FEBRUARY	946	2651	1650	408	.25	9.1
MARCH	1045	3627	1764	618	.35	9.7
APRIL	1272	2463	1770	340	.19	9.8
MAY	1276	3282	2143	626	.29	11.8
JUNE	1119	2923	1733	617	.36	9.6
JULY	873	1660	1233	288	.23	6.8
AUGUST	770	1337	1050	210	.20	5.8
SEPTEMBER	761	1236	983	174	.18	5.4
ANNUAL	1022	2053	1509	305	.20	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	820	708	659	624	--	--
3	839	725	674	637	--	--
7	852	735	684	645	--	--
14	870	749	696	656	--	--
30	893	771	718	679	--	--
60	918	800	750	713	--	--
90	942	825	775	738	--	--
120	969	852	802	766	--	--
183	1070	949	898	862	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%	
4480	6500	9300	11200	13500	--	--	
WEIGHTED SKEW = -.129							

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	5330	7940	9470	11200	--	--
3	4600	6610	7750	8970	--	--
7	3740	5050	5740	6450	--	--
15	3090	3930	4340	4740	--	--
30	2620	3250	3580	3900	--	--
60	2240	2720	2980	3250	--	--
90	2090	2520	2750	3000	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
2780	2320	2050	1890	1750	1640	1470	1340	1230	1120	1060	992	927	868	808	

14330500 SOUTH FORK ROGUE RIVER ABOVE IMNAHA CREEK, NEAR PROSPECT, OR

LOCATION.--Lat 42°42'25", long 122°23'20", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1931 to September 1949.

GAGE.--Water-stage recorder. Altitude of gage is 3,390 ft, from river-profile map.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--18 years, 127 ft<sup>3</sup>/s, 92,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft<sup>3</sup>/s Dec. 1, 1942, gage height, 6.21 ft, from rating curve extended above 250 ft<sup>3</sup>/s on basis of former curve defined to 1,000 ft<sup>3</sup>/s; minimum, 27 ft<sup>3</sup>/s Oct. 1-21, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1932-49

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	34	77	53	11	.21	3.5
NOVEMBER	34	192	80	37	.47	5.2
DECEMBER	34	325	109	70	.64	7.2
JANUARY	41	319	118	70	.59	7.8
FEBRUARY	37	241	109	51	.47	7.2
MARCH	60	220	127	46	.36	8.3
APRIL	93	303	205	66	.32	13.5
MAY	77	490	279	106	.38	18.3
JUNE	58	490	215	109	.51	14.1
JULY	44	162	101	31	.30	6.6
AUGUST	36	100	69	17	.25	4.6
SEPTEMBER	34	80	58	12	.21	3.8
ANNUAL	76	202	127	31	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1933-49

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	39	36	34	--	--
3	46	39	37	34	--	--
7	46	40	37	35	--	--
14	47	41	38	36	--	--
30	49	42	39	36	--	--
60	51	43	40	37	--	--
90	54	45	41	38	--	--
120	57	48	43	40	--	--
183	68	56	51	47	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-49

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
496	731	1110	1390	1780	--	--
WEIGHTED SKEW = .225						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1932-49

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	574	880	1130	1500	--	--
3	476	701	880	1140	--	--
7	404	564	679	836	--	--
15	353	478	558	658	--	--
30	320	424	483	551	--	--
60	280	366	413	462	--	--
90	242	311	349	389	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1932-49

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
346	271	219	179	149	133	107	89	76	66	61	55	51	47	42

## ROGUE RIVER BASIN

14331000 IMNAHA CREEK NEAR PROSPECT, OR

LOCATION.--Lat 42°41'20", long 122°23'00", in NE¼ 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 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--September 1931 to October 1949.

GAGE.--Staff gage. Altitude of gage is 3,400 ft, from river-profile map.

REMARKS.--No diversion or regulation above station.

AVERAGE DISCHARGE.--18 years (water years 1932-49), 42.8 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 500 ft<sup>3</sup>/s Feb. 13, 1945, gage not read, computed on basis of records for South and Middle Forks Rogue River near Prospect; minimum observed, 11 ft<sup>3</sup>/s Dec. 14, 1931, gage height, 0.46 ft.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1934-49

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	17	31	22	4.0	.18	4.3
NOVEMBER	19	67	29	12	.40	5.6
DECEMBER	21	107	41	22	.54	7.9
JANUARY	19	126	48	28	.58	9.4
FEBRUARY	21	84	47	17	.37	9.1
MARCH	22	81	49	17	.34	9.5
APRIL	28	115	71	26	.37	13.6
MAY	27	148	78	34	.44	15.1
JUNE	23	112	56	24	.43	10.8
JULY	19	53	32	8.9	.28	6.1
AUGUST	16	35	23	4.8	.21	4.5
SEPTEMBER	16	32	22	4.1	.19	4.2
ANNUAL	26	70	43	12	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1935-49

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	16	15	15	--	--
3	19	17	16	15	--	--
7	19	17	16	15	--	--
14	20	17	16	16	--	--
30	20	18	17	16	--	--
60	20	18	17	16	--	--
90	21	18	17	17	--	--
120	22	19	18	17	--	--
183	25	21	19	18	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1934-49

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	170	290	384	519	--	--
WEIGHTED SKEW = .042						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1934-49

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	163	277	368	501	--	--
3	141	222	281	361	--	--
7	118	175	214	264	--	--
15	104	147	175	208	--	--
30	93	128	150	175	--	--
60	81	110	126	145	--	--
90	72	95	108	123	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1934-49

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
102	84	70	60	52	47	39	32	28	25	23	22	21	19

## 14333000 MIDDLE FORK ROGUE RIVER NEAR PROSPECT, OR

LOCATION.--Lat 42°44'05", long 122°24'05", in NE¼NE¼ 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 mi<sup>2</sup>.

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 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 above station for hydroelectric power and returns water to the Rogue River above South Fork Rogue River; practically no storage above diversion dam.

AVERAGE DISCHARGE.--30 years (water years 1926-55), 184 ft<sup>3</sup>/s, 133,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,120 ft<sup>3</sup>/s Nov. 23, 1953, from rating curve extended above 250 ft on basis of shape of previous rating curves; minimum daily, 72 ft<sup>3</sup>/s Aug. 24, to Sept. 5, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 5.65 ft, discharge, 3,230 ft<sup>3</sup>/s, by measurement of peak flow over dam.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1933-55

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	100	192	129	26	.20	5.6
NOVEMBER	107	270	158	47	.30	6.8
DECEMBER	112	359	189	73	.39	8.2
JANUARY	104	352	194	65	.33	8.4
FEBRUARY	104	451	205	86	.42	8.9
MARCH	134	259	189	37	.19	8.2
APRIL	145	357	254	54	.21	11.0
MAY	139	444	296	64	.22	12.8
JUNE	114	460	270	82	.30	11.7
JULY	102	263	168	39	.23	7.3
AUGUST	95	184	135	22	.16	5.8
SEPTEMBER	90	168	126	20	.16	5.4
ANNUAL	137	250	193	33	.17	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1934-55

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	111	98	92	88	--	--
3	112	99	94	90	--	--
7	113	101	95	92	--	--
14	114	102	96	92	--	--
30	116	103	98	94	--	--
60	119	106	100	95	--	--
90	122	108	102	97	--	--
120	125	110	104	99	--	--
183	137	119	112	108	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1933-55

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
548	869	1470	1980	2790	--	--
WEIGHTED SKEW = .461						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1933-55

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	666	1020	1310	1730	--	--
3	557	779	940	1160	--	--
7	458	597	692	816	--	--
15	385	475	532	602	--	--
30	345	419	462	513	--	--
60	314	366	390	413	--	--
90	289	334	356	378	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1933-55

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
367	316	282	254	230	211	181	161	146	134	129	124	119	112	105



## ROGUE RIVER BASIN

14333500 RED BLANKET CREEK NEAR PROSPECT, OR

LOCATION.--Lat 42°46'40", long 122°25'35", in NW¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1925 to September 1981.

GAGE.--Water-stage recorder. Altitude 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 above station.

AVERAGE DISCHARGE.--56 years (water years 1926-81), 115 ft<sup>3</sup>/s, 83,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,190 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 7.85 ft, from rating curve extended above 1,500 ft<sup>3</sup>/s; minimum observed, 34 ft<sup>3</sup>/s Sept. 3, 4, 25, Oct. 9, 16, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1926-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	48	118	70	17	.24	4.9
NOVEMBER	51	207	102	39	.39	7.2
DECEMBER	54	482	132	78	.59	9.3
JANUARY	49	279	133	57	.43	9.4
FEBRUARY	54	265	130	45	.34	9.1
MARCH	73	354	127	48	.38	8.9
APRIL	75	227	146	39	.27	10.3
MAY	76	285	178	50	.28	12.5
JUNE	59	274	164	60	.37	11.5
JULY	49	198	99	34	.34	6.9
AUGUST	42	117	74	19	.26	5.2
SEPTEMBER	40	97	66	15	.22	4.7
ANNUAL	71	177	118	29	.24	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1935-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	47	43	40	37	35
3	57	48	43	40	37	35
7	58	49	45	41	38	36
14	59	50	46	42	39	37
30	61	51	47	44	40	38
60	63	53	49	45	42	40
90	66	55	51	47	44	42
120	69	58	53	49	46	44
183	80	66	60	56	52	49

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1934-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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
WEIGHTED SKEW = .215						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1934-81

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	465	784	1050	1470	1840	2260
3	376	608	808	1120	1410	1740
7	299	447	568	752	913	1100
15	249	344	413	507	583	664
30	220	288	331	384	423	461
60	192	247	281	321	349	377
90	175	220	247	279	300	320

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1934-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
245	204	179	160	145	131	113	98	87	77	73	68	64	59	53

## 14334700 SOUTH FORK ROGUE RIVER, SOUTH OF PROSPECT, OR

LOCATION.--Lat 42°42'45", long 122°30'20", in NW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 2,030 ft, from topographic map.

REMARKS.--Some regulation by South Fork canal dam upstream. Power diversions above 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.--14 years, 382 ft<sup>3</sup>/s, 276,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,880 ft<sup>3</sup>/s Mar. 3, 1972, gage height, 12.71 ft, from floodmark; minimum, 54 ft<sup>3</sup>/s Aug. 16-19, 1977; minimum daily, 54 ft<sup>3</sup>/s Sept. 24-30, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 20.1 ft, Dec. 22, 1964, from floodmarks at gage, discharge, 28,500 ft<sup>3</sup>/s.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1969-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	65	175	105	32	.30	2.3
NOVEMBER	69	761	264	191	.72	5.7
DECEMBER	86	1327	475	390	.82	10.3
JANUARY	85	1143	628	344	.55	13.6
FEBRUARY	81	1246	473	292	.62	10.3
MARCH	99	2240	572	531	.93	12.4
APRIL	134	878	486	226	.47	10.5
MAY	253	1049	655	284	.43	14.2
JUNE	150	962	506	310	.61	11.0
JULY	71	429	211	133	.63	4.6
AUGUST	61	243	124	57	.46	2.7
SEPTEMBER	59	174	112	40	.36	2.4
ANNUAL	114	672	384	171	.45	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1970-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	75	60	54	49	--	--
3	76	61	54	50	--	--
7	77	61	55	50	--	--
14	78	62	56	51	--	--
30	82	65	58	53	--	--
60	88	70	62	57	--	--
90	92	72	64	58	--	--
120	97	76	68	62	--	--
183	141	110	99	92	--	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1530	2880	5390	7460	10500	--	--
WEIGHTED SKEW = -.029						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1969-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2490	4660	6260	8370	--	--
3	2150	3780	4900	6270	--	--
7	1740	2840	3510	4280	--	--
15	1290	2020	2480	3000	--	--
30	981	1520	1850	2220	--	--
60	755	1130	1340	1570	--	--
90	677	1020	1220	1430	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1969-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1110	840	706	609	526	447	326	234	166	126	112	100	88	76	65

## ROGUE RIVER BASIN

## 14335000 ROGUE RIVER BELOW SOUTH FORK ROGUE RIVER, NEAR PROSPECT, OR

LOCATION.--Lat 42°42'00", long 122°35'40", in SW¼NW¼ 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 mi<sup>2</sup>.

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 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 above station. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--37 years, 1,799 ft<sup>3</sup>/s, 1,302,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 23.0 ft, from floodmark, from rating curve extended above 18,000 ft<sup>3</sup>/s by logarithmic plotting; minimum since intake was lowered Aug. 18, 1934, 493 ft<sup>3</sup>/s Sept. 1, 1934 (prior to Aug. 18, 1934, minimum not determined).

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1929-65

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	680	1897	1055	255	.24	4.9
NOVEMBER	717	2719	1398	509	.36	6.5
DECEMBER	782	7361	2008	1320	.66	9.3
JANUARY	809	4448	1921	938	.49	8.9
FEBRUARY	854	4788	2111	907	.43	9.8
MARCH	1303	3949	2046	565	.28	9.5
APRIL	1373	3831	2552	583	.23	11.8
MAY	1126	4290	2820	826	.29	13.1
JUNE	838	4799	2258	841	.37	10.5
JULY	692	2287	1346	347	.26	6.2
AUGUST	590	1532	1077	212	.20	5.0
SEPTEMBER	610	1387	1000	177	.18	4.6
ANNUAL	930	2596	1797	422	.23	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1930-65

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	878	749	689	643	595	--
3	902	768	704	654	601	--
7	913	780	715	665	611	--
14	927	792	726	674	618	--
30	946	808	740	686	629	--
60	971	828	757	700	640	--
90	997	845	770	710	646	--
120	1030	872	793	733	668	--
183	1180	963	864	790	713	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1932-55

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
5520	8250	12800	16200	21200	25400	--
WEIGHTED SKEW = .286						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1929-65

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6720	11300	15600	23100	30500	--
3	5590	8920	11900	16800	21500	--
7	4490	6670	8580	11600	14500	--
15	3780	5200	6290	7870	9190	--
30	3370	4400	5090	5980	6650	--
60	3010	3840	4360	4970	5420	--
90	2780	3460	3860	4310	4620	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1929-65

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
3750	3160	2800	2500	2250	2040	1690	1430	1260	1130	1060	1000	942	877	801

## 14335500 SOUTH FORK BIG BUTTE CREEK NEAR BUTTE FALLS, OR

LOCATION.--Lat 42°32'25", long 122°33'15", in NE¼SW¼ 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 mi<sup>2</sup>.

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 September 1982. Monthly discharge only August, September 1915, published in WSP 1318.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1968. Altitude 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 datums.

REMARKS.--Flow slightly regulated since 1952 by Willow Creek Reservoir, capacity, 7,320 acre-ft. Diversions for irrigation above station and for municipal water supply for Medford (since 1927) and Butte Falls.

AVERAGE DISCHARGE.--63 years (water years 1911, 1918-22, 1926-82), 155 ft<sup>3</sup>/s, 112,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 7.65 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 29 ft<sup>3</sup>/s Sept. 26, 1981.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1928-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	44	127	78	19	.24	4.3
NOVEMBER	49	218	100	34	.34	5.5
DECEMBER	60	1073	182	165	.91	10.0
JANUARY	54	785	214	149	.70	11.8
FEBRUARY	59	532	221	118	.53	12.2
MARCH	67	740	240	126	.53	13.2
APRIL	73	435	229	89	.39	12.6
MAY	71	333	184	69	.38	10.1
JUNE	53	287	125	48	.38	6.9
JULY	52	134	89	19	.22	4.9
AUGUST	46	127	80	16	.20	4.4
SEPTEMBER	45	106	77	14	.18	4.2
ANNUAL	64	297	151	52	.35	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1929-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	52	45	40	34	31
3	66	52	45	40	35	31
7	67	53	47	41	36	33
14	68	55	48	43	38	34
30	70	57	51	46	41	38
60	72	60	54	49	44	41
90	74	62	56	52	47	45
120	76	64	58	54	49	47
183	84	69	63	58	53	50

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1911-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
415	757	1510	2250	3530	4800	6400
WEIGHTED SKEW = .480						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1928-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	624	1190	1720	2600	3430	4450
3	533	974	1380	2040	2660	3410
7	446	769	1040	1470	1850	2290
15	373	601	777	1030	1230	1460
30	319	492	616	781	910	1040
60	271	408	504	628	723	820
90	249	367	447	547	621	695

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1928-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
367	291	243	209	182	158	124	105	93	83	78	74	70	65	59

## ROGUE RIVER BASIN

14337500 BIG BUTTE CREEK NEAR MCLEOD, OR

LOCATION.--Lat 42°39'05", long 122°41'25", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1945 to September 1957. October 1967 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,525.95 ft 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 above 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.--27 years, 283 ft<sup>3</sup>/s, 205,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,950 ft<sup>3</sup>/s Dec. 22, 1955, gage height, 12.75 ft, site and datum then in use, from rating curve extended above 3,300 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 6.4 ft<sup>3</sup>/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 ft<sup>3</sup>/s, from rating curve, at former site, extended above 9,000 ft<sup>3</sup>/s and field estimate of overflow.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1946-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	65	330	133	55	.41	3.9
NOVEMBER	66	535	217	126	.58	6.4
DECEMBER	58	1334	440	325	.74	12.9
JANUARY	64	1325	552	342	.62	16.2
FEBRUARY	92	1121	512	274	.54	15.0
MARCH	126	1362	535	311	.58	15.7
APRIL	74	723	396	175	.44	11.6
MAY	57	492	249	122	.49	7.3
JUNE	44	450	145	85	.59	4.3
JULY	37	148	85	30	.35	2.5
AUGUST	43	121	71	22	.31	2.1
SEPTEMBER	44	106	72	17	.24	2.1
ANNUAL	80	501	283	115	.41	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	41	32	25	18	--
3	59	43	36	31	25	--
7	60	45	39	34	29	--
14	61	47	40	35	31	--
30	63	48	42	37	32	--
60	66	51	45	40	35	--
90	71	55	47	42	37	--
120	80	61	52	46	39	--
183	99	74	64	57	50	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1946-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	3150	5300	6830	8800	10300	--
WEIGHTED SKEW = -.334						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2250	3890	4950	6200	7060	--
3	1770	2960	3660	4440	4930	--
7	1360	2160	2610	3070	3350	--
15	1000	1550	1850	2160	2350	--
30	781	1190	1410	1660	1810	--
60	634	962	1150	1340	1460	--
90	584	878	1040	1200	1290	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
867	632	510	427	359	296	207	158	123	93	83	75	67	59	49

## 14337600 ROGUE RIVER NEAR MCLEOD, OR

LOCATION.--Lat 42°39'20", long 122°42'50", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,489.08 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake. Diversions for irrigation above station; most of low flow of Big Butte Creek is diverted near Butte Falls.

AVERAGE DISCHARGE.--17 years, 2,100 ft<sup>3</sup>/s, 1,521,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft<sup>3</sup>/s Mar. 3, 1972, gage height, 12.24 ft; minimum, 468 ft<sup>3</sup>/s Feb. 18, 1977, result of closure of Lost Creek Dam, minimum prior to that time, 604 ft<sup>3</sup>/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 ft<sup>3</sup>/s from slope-area measurement of peak flow.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1966-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	917	1508	1229	179	.15	4.5
NOVEMBER	1038	3932	1848	836	.45	6.7
DECEMBER	1127	4293	2333	953	.41	8.5
JANUARY	1434	5290	3429	1472	.43	12.5
FEBRUARY	1523	4586	2720	833	.31	9.9
MARCH	1941	8565	3301	1926	.58	12.0
APRIL	1603	4240	2861	884	.31	10.4
MAY	1574	4503	3270	946	.29	11.9
JUNE	1164	4025	2555	1037	.41	9.3
JULY	903	2196	1577	445	.28	5.7
AUGUST	887	1618	1255	274	.22	4.6
SEPTEMBER	843	1473	1162	217	.19	4.2
ANNUAL	1377	3340	2294	652	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1030	893	830	781	--	--
3	1040	903	838	788	--	--
7	1060	914	847	795	--	--
14	1080	930	859	805	--	--
30	1100	943	874	822	--	--
60	1130	973	902	848	--	--
90	1150	993	918	860	--	--
120	1180	1010	935	878	--	--
183	1380	1160	1070	1000	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1966-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
7300	11700	19100	24900	--	--	--
WEIGHTED SKEW = .171						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1966-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	9450	16000	21600	--	--	--
3	8060	13400	18200	--	--	--
7	6670	10300	13300	--	--	--
15	5370	7760	9580	--	--	--
30	4370	5990	7190	--	--	--
60	3670	4900	5810	--	--	--
90	3360	4480	5280	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1966-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4760	4010	3520	3140	2850	2590	2160	1820	1570	1390	1320	1220	1120	1050	977

## ROGUE RIVER BASIN

14338000 ELK CREEK NEAR TRAIL, OR

LOCATION.--Lat 42°39'50", long 122°44'50", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1945 to September 1982. Prior to March 1946 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,456.56 ft 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.--No regulation. Diversions for Irrigation above station.

AVERAGE DISCHARGE.--37 years, 230 ft<sup>3</sup>/s, 166,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 18.84 ft, from rating curve extended above 4,700 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 0.40 ft<sup>3</sup>/s Aug. 16, 1965.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1947-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	3.2	404	38	69	1.83	1.4
NOVEMBER	9.1	1008	193	196	1.02	7.0
DECEMBER	13	1851	457	408	.89	16.5
JANUARY	20	1283	567	391	.69	20.5
FEBRUARY	23	1131	519	255	.49	18.8
MARCH	121	1074	439	248	.56	15.9
APRIL	66	565	297	125	.42	10.7
MAY	38	358	169	91	.54	6.1
JUNE	15	254	57	43	.75	2.1
JULY	3.7	36	15	7.7	.53	.5
AUGUST	1.4	25	6.7	4.6	.68	.2
SEPTEMBER	1.5	25	7.1	4.2	.60	.3
ANNUAL	42	438	229	92	.40	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1948-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.4	1.5	1.2	1.0	.9	--
3	2.7	1.7	1.4	1.1	.9	--
7	2.9	1.9	1.5	1.3	1.0	--
14	3.3	2.1	1.7	1.4	1.1	--
30	3.9	2.5	2.0	1.7	1.4	--
60	5.1	3.4	2.8	2.3	1.9	--
90	6.4	4.6	4.0	3.5	3.1	--
120	9.2	6.8	5.9	5.2	4.6	--
183	25	17	14	12	11	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1947-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
3240	5200	8350	10700	13900	16500	--
WEIGHTED SKEW = -.003						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1947-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3880	6060	7160	8210	8780	--
3	2630	4240	5180	6200	6850	--
7	1720	2710	3290	3940	4370	--
15	1180	1730	2020	2310	2480	--
30	883	1270	1480	1690	1810	--
60	692	978	1120	1260	1350	--
90	601	836	955	1070	1140	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1947-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
910	581	432	340	270	215	132	70	34	17	13	9.4	6.8	5.0	3.5

## 14339000 ROGUE RIVER AT DODGE BRIDGE, NEAR EAGLE POINT, OR

LOCATION.--Lat 42°31'30", long 122°50'30", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,271.39 ft 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. Diversions for irrigation above station; most of low flow of Big Butte Creek is diverted near Butte Falls.

AVERAGE DISCHARGE.--44 years, 2,597 ft<sup>3</sup>/s, 1,882,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 12.78 ft, datum then in use, from rating curve extended above 23,000 ft<sup>3</sup>/s; minimum, 567 ft<sup>3</sup>/s Feb. 18, 1977, result of closure of Lost Creek dam, minimum prior to that time 611 ft<sup>3</sup>/s Aug. 6, 14, 29, Sept. 9, 1940.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1939-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	934	3099	1354	399	.29	4.2
NOVEMBER	1012	5719	2151	1007	.47	6.7
DECEMBER	1164	11290	3479	2228	.64	10.8
JANUARY	1489	8151	4021	2124	.53	12.5
FEBRUARY	1798	8382	3922	1383	.35	12.2
MARCH	1784	9610	3676	1523	.41	11.4
APRIL	1689	5220	3476	833	.24	10.8
MAY	1595	5287	3484	921	.26	10.8
JUNE	1201	4534	2629	881	.34	8.2
JULY	928	2431	1557	382	.25	4.8
AUGUST	888	1711	1254	244	.19	3.9
SEPTEMBER	853	1535	1177	189	.16	3.7
ANNUAL	1568	4117	2676	684	.26	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1940-76

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1070	937	875	827	777	--
3	1080	949	886	838	787	--
7	1090	957	894	845	793	--
14	1100	968	905	856	805	--
30	1120	983	919	869	818	--
60	1150	1010	945	896	844	--
90	1190	1040	969	916	860	--
120	1230	1070	1000	943	885	--
183	1490	1260	1150	1080	1000	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1939-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
12700	20800	35300	47100	64900	80300	--
WEIGHTED SKEW = .247						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1939-76

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	16000	26700	35200	47500	57900	--
3	12400	20400	26800	36300	44400	--
7	9050	14200	18300	24200	29300	--
15	6820	10000	12400	15700	18400	--
30	5470	7580	9150	11300	13100	--
60	4620	6180	7310	8850	10100	--
90	4270	5600	6500	7680	8590	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1939-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5920	4700	4120	3710	3360	3050	2500	2010	1660	1430	1350	1260	1170	1090	1010



## 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 NW¼ 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.--About 17 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1926 to September 1950.

GAGE.--Water-stage recorder. Altitude 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 above station.

COOPERATION.--Records for 1932-50, furnished by the Oregon Water Resources Department.

AVERAGE DISCHARGE.--24 years, 17.9 ft<sup>3</sup>/s, 12,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 145 ft<sup>3</sup>/s May 25, 1942, gage height, 2.80 ft, from rating curve extended above 25 ft<sup>3</sup>/s; minimum recorded, 4 ft<sup>3</sup>/s July 8-15, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1927-50

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	5.9	13	9.7	1.8	.18	4.6
NOVEMBER	6.2	14	9.9	2.1	.21	4.6
DECEMBER	6.3	16	10	2.6	.25	4.7
JANUARY	6.0	17	9.8	2.9	.30	4.6
FEBRUARY	6.0	21	11	3.3	.30	5.1
MARCH	7.6	34	15	6.2	.41	7.1
APRIL	11	63	31	14	.44	14.5
MAY	8.1	88	53	25	.47	24.8
JUNE	5.3	78	28	17	.61	13.1
JULY	4.7	21	14	4.2	.30	6.6
AUGUST	5.5	17	12	3.0	.26	5.5
SEPTEMBER	5.0	15	11	2.4	.22	5.0
ANNUAL	6.6	26	18	5.0	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1928-50

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	7.4	5.8	5.0	4.4	--	--
3	7.5	5.8	5.1	4.5	--	--
7	7.6	6.0	5.2	4.6	--	--
14	7.7	6.1	5.4	4.9	--	--
30	8.0	6.5	5.8	5.2	--	--
60	8.5	6.9	6.2	5.6	--	--
90	8.8	7.2	6.4	5.8	--	--
120	9.2	7.4	6.5	5.8	--	--
183	9.7	8.0	7.2	6.5	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1927-50

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = -.418						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1927-50

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	80	116	131	144	--	--
3	77	113	127	139	--	--
7	75	107	120	130	--	--
15	71	101	112	121	--	--
30	63	89	99	107	--	--
60	49	68	74	79	--	--
90	40	53	59	62	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1927-50

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
63	37	27	19	17	15	14	12	11	10	9.0	8.5	8.0	7.4	6.0

14341500 SOUTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR

LOCATION.--Lat 42°24'30", long 122°36'00", in SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1921 to September 1932.

GAGE.--Water-stage recorder. Altitude 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 above station; also, in December 1958 Dead Indian collection canal began diverting above station from Code Creek and Dead Indian Creek and in December 1959 South Fork Little Butte collection canal began diverting above 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-Madford area and power development enroute.

AVERAGE DISCHARGE.--61 years (water years 1922-82), 104 ft<sup>3</sup>/s, 75,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,660 ft<sup>3</sup>/s Dec. 2, 1962, gage height, 8.35 ft, site and datum then in use; minimum, 2.0 ft<sup>3</sup>/s Aug. 10, 1931.

STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF THE TWO COLLECTION CANALS)

MONTHLY AND ANNUAL MEAN DISCHARGES 1922-57

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	14	85	25	15	.59	1.9
NOVEMBER	14	177	54	41	.77	4.1
DECEMBER	19	405	117	111	.95	9.0
JANUARY	19	380	127	99	.78	9.8
FEBRUARY	27	345	157	95	.61	12.1
MARCH	51	479	180	99	.55	13.9
APRIL	47	509	256	110	.43	19.7
MAY	18	434	228	132	.58	17.6
JUNE	9.7	292	95	67	.71	7.3
JULY	4.8	50	26	11	.42	2.0
AUGUST	4.7	28	17	5.5	.33	1.3
SEPTEMBER	8.5	26	17	4.4	.25	1.3
ANNUAL	21	181	108	44	.41	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1923-57

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	9.0	6.9	5.4	4.0	--
3	14	9.5	7.3	5.7	4.1	--
7	15	10.0	7.7	5.9	4.3	--
14	15	11	8.3	6.5	4.8	--
30	16	11	8.8	6.9	5.1	--
60	17	12	9.5	7.6	5.7	--
90	18	13	11	8.7	6.8	--
120	19	14	12	9.8	7.8	--
183	27	18	15	12	10	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1922-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
545	1120	2250	3200	4610	5820	7140
WEIGHTED SKEW = .073						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1922-57

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	760	1310	1690	2170	2520	--
3	615	995	1230	1500	1670	--
7	497	747	878	1010	1080	--
15	416	581	651	711	739	--
30	351	477	527	566	583	--
60	292	403	448	484	500	--
90	255	347	384	413	426	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1922-57

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
385	294	231	186	152	120	74	44	30	23	21	19	18	13

## ROGUE RIVER BASIN

14341500 SOUTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF THE TWO COLLECTION CANALS)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-82

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	12	110	21	20	.96	1.8
NOVEMBER	16	140	50	38	.75	4.2
DECEMBER	16	818	148	174	1.18	12.6
JANUARY	17	446	160	124	.78	13.6
FEBRUARY	16	302	129	73	.57	10.9
MARCH	29	556	165	111	.67	14.0
APRIL	48	451	202	104	.51	17.1
MAY	32	511	172	118	.69	14.6
JUNE	16	183	66	42	.64	5.6
JULY	10	45	27	9.0	.34	2.3
AUGUST	10	35	20	6.7	.33	1.7
SEPTEMBER	11	35	19	5.9	.31	1.6
ANNUAL	29	187	98	46	.47	100

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	8.5	7.5	6.8	--	--
3	11	8.8	7.8	7.1	--	--
7	11	9.2	8.3	7.6	--	--
14	12	10	9.4	8.8	--	--
30	14	12	11	10	--	--
60	15	13	12	11	--	--
90	17	14	12	12	--	--
120	18	15	13	12	--	--
183	26	20	18	17	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDMAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN  
YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT

1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
-------------	----------	----------	-----------	----------	----------	-----------

-- -- -- -- -- -- --

WEIGHTED SKEW = --

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
----------	----------	-----------	----------	----------	-----------

1	751	1620	2480	3990	--	--
3	571	1200	1830	2950	--	--
7	435	832	1210	1860	--	--
15	348	587	780	1070	--	--
30	282	452	573	734	--	--
60	227	359	452	573	--	--
90	196	307	383	480	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
340	241	183	150	125	104	66	45	32	24	21	19	17	15	13

## 14342500 NORTH FORK LITTLE BUTTE CREEK AT FISH LAKE, NEAR LAKECREEK, OR

LOCATION.--Lat 42°22'35", long 122°21'20", in SE¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1914 to July 1915, June 1916 to September 1982. Monthly discharge only November 1916 to May 1917, published in WSP 1318.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,571.41 ft 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 above Fish Lake; diversion began August 1923. No diversion from creek above station.

AVERAGE DISCHARGE.--66 years (water years 1917-82), 35.6 ft<sup>3</sup>/s, 25,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 940 ft<sup>3</sup>/s June 5, 1917, computed from rate of change in contents of reservoir after break in dam occurred; no flow at times.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1918-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	.2	50	14	11	.84	3.2
NOVEMBER	0.0	46	14	11	.81	3.2
DECEMBER	1.6	42	16	10	.63	3.7
JANUARY	1.3	67	18	11	.60	4.3
FEBRUARY	4.3	67	19	11	.57	4.4
MARCH	5.1	100	20	13	.65	4.7
APRIL	4.2	80	24	12	.49	5.7
MAY	16	78	38	15	.41	8.8
JUNE	17	118	55	24	.43	13.0
JULY	22	145	86	28	.33	20.2
AUGUST	14	129	80	26	.33	18.8
SEPTEMBER	6.2	76	42	16	.38	10.0
ANNUAL	15	66	36	9.9	.28	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1919-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	3.7	.8	.3	.2	.1	0.0
30	4.7	1.1	.4	.2	.1	0.0
60	7.2	2.3	1.1	.6	.2	.1
90	9.3	4.3	2.7	1.8	1.1	.8
120	11	6.0	4.2	3.0	2.1	1.6
183	15	8.9	6.8	5.4	4.1	3.4

NOTE: SHORT-DURATION DATA UNCERTAIN DUE TO EXCESSIVE ZERO EVENTS.

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1918-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
99	119	140	151	163	171	178
WEIGHTED SKEW = -.409						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1918-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	117	137	147	155	160	165
3	115	135	144	152	156	159
7	113	133	141	147	151	153
15	109	130	138	145	149	151
30	102	124	133	141	145	148
60	90	110	120	128	133	137
90	79	97	105	113	117	121

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1918-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
108	88	73	61	50	41	31	25	20	16	14	13	10	6.5	2.9

## ROGUE RIVER BASIN

## 14343000 NORTH FORK LITTLE BUTTE CREEK NEAR LAKECREEK, OR

LOCATION.--Lat 42°24'10", long 122°32'10", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1911 to March 1913, July to September 1917, May 1922 to December 1964, September 1965 to September 1982. 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. Altitude 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Flow partly regulated since 1915 by Fish Lake. Diversions for irrigation above station; some water diverted into Fish Lake from Fourmile Lake, in Klamath River basin, since 1923.

AVERAGE DISCHARGE.--60 years (water years 1912, 1923-64, 1966-82), 71.1 ft<sup>3</sup>/s, 51,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 6.06 ft, present site and datum; minimum, 11 ft<sup>3</sup>/s Oct. 29 to Nov. 8, 1931.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1912-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	14	79	36	15	.42	4.2
NOVEMBER	16	81	41	14	.35	4.8
DECEMBER	19	122	55	23	.41	6.4
JANUARY	25	145	59	22	.38	6.9
FEBRUARY	28	126	64	22	.34	7.4
MARCH	30	253	71	31	.43	8.3
APRIL	33	144	74	22	.29	8.7
MAY	43	140	82	23	.28	9.6
JUNE	44	149	89	24	.27	10.4
JULY	49	164	113	27	.24	13.2
AUGUST	32	155	106	27	.25	12.4
SEPTEMBER	22	119	67	19	.28	7.8
ANNUAL	34	118	72	16	.22	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1913-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	19	16	13	11	10
3	26	19	16	13	11	10
7	27	19	16	13	11	10
14	27	19	16	14	12	11
30	29	21	17	15	13	12
60	33	24	21	18	16	14
90	38	28	24	21	18	16
120	42	32	27	24	21	19
183	49	38	33	29	25	23

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
153	238	408	565	825	1070	1380
WEIGHTED SKEW = .701						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1912-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	162	238	308	427	542	684
3	149	205	256	338	414	505
7	140	180	211	257	295	338
15	136	166	186	211	229	247
30	131	156	171	187	198	207
60	119	141	152	165	173	181
90	108	128	139	151	159	166

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1912-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
143	123	111	101	93	86	75	65	57	49	45	41	37	32	25

## 14350000 EMIGRANT CREEK NEAR ASHLAND, OR

LOCATION.--Lat 43°09'50", long 122°36'15", in SE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January to June 1920, October 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 September 1982. 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 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 above station for irrigation, the principal diversion canals are Ashland lateral and East lateral. From June 1923 to August 1960, water diverted by Keene Creek Canal from Klamath River basin into Emigrant Creek above station. Beginning May 1960, water from Klamath River basin diverted to Emigrant Creek above station via Green Springs powerplant diversion.

AVERAGE DISCHARGE.--42 years (water years 1925, 1927-30, 1934-35, 1941-47, 1954-82), 31.8 ft<sup>3</sup>/s, 23,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,260 ft<sup>3</sup>/s Feb. 20, 1927, by computation of peak flow over dam; no flow at times.

## STATISTICAL SUMMARIES (BEFORE THE CONSTRUCTION OF GREEN SPRINGS DIVERSION)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1925-60

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	9.6	2.2	3.2	1.45	.6
NOVEMBER	0.0	47	4.0	13	3.16	1.1
DECEMBER	.1	158	29	49	1.69	8.2
JANUARY	.1	230	58	67	1.16	16.1
FEBRUARY	.1	243	82	78	.95	22.7
MARCH	.1	167	49	45	.91	13.8
APRIL	.2	163	52	43	.82	14.5
MAY	.5	91	19	21	1.10	5.2
JUNE	.7	33	12	8.6	.74	3.2
JULY	12	43	27	7.5	.27	7.6
AUGUST	4.3	33	20	6.9	.34	5.6
SEPTEMBER	0.0	14	4.9	3.4	.70	1.4
ANNUAL	6.1	46	27	15	.55	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1942-60

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	.2	.1	.1	0.0	0.0	--
90	.5	.2	.2	.1	.1	--
120	1.5	.6	.4	.2	.1	--
183	5.1	1.4	.6	.3	.1	--

NOTE: SHORT-DURATION DATA UNCERTAIN DUE TO EXCESSIVE ZERO EVENTS.

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1925-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
--	--	--	--	--	--	--
WEIGHTED SKEW =						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1925-60

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	295	704	1020	1430	1720	--
3	261	582	814	1100	1290	--
7	209	438	598	792	925	--
15	147	290	390	513	599	--
30	106	204	278	378	454	--
60	84	150	196	255	297	--
90	68	120	156	199	230	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1925-60

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
114	70	48	38	31	25	14	4.7	1.3	.5	.3	.2	.2	.1	.1

## ROGUE RIVER BASIN

14350000 EMIGRANT CREEK NEAR ASHLAND, OR--Continued

## STATISTICAL SUMMARIES (AFTER THE COMPLETION OF GREEN SPRINGS DIVERSION)

## MONTHLY AND ANNUAL MEAN DISCHARGES 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	0.0	46	3.9	10	2.63	.8
NOVEMBER	0.0	70	7.2	19	2.61	1.5
DECEMBER	0.0	262	49	79	1.59	10.6
JANUARY	0.0	288	65	87	1.34	13.9
FEBRUARY	0.0	98	26	34	1.32	5.5
MARCH	0.0	158	36	49	1.36	7.7
APRIL	.3	201	80	63	.80	17.2
MAY	.4	139	45	42	.94	9.6
JUNE	2.7	61	26	13	.49	5.6
JULY	31	84	51	14	.28	10.9
AUGUST	23	72	51	12	.24	11.8
SEPTEMBER	.1	47	25	11	.44	5.4
ANNUAL	11	83	39	23	.60	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, 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	7.9	1.0	.3	.1	--	--

NOTE: LOW-FLOW DATA UNCERTAIN DUE TO EXCESSIVE ZERO  
EVENTS.MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORDDISCHARGE, IN CFS, 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%
--	--	--	--	--	--	--
WEIGHTED SKEW =	--					

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1962-82DISCHARGE, IN CFS, FOR INDICATED RECURRENCE  
INTERVAL, IN YEARS, AND ANNUAL  
EXCEEDANCE PROBABILITY, IN PERCENT

PERIOD (CON- SECU- TIVE DAYS)	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	247	492	690	973	--	--
3	233	472	670	959	--	--
7	211	426	609	887	--	--
15	161	320	465	702	--	--
30	116	208	287	407	--	--
60	89	149	200	274	--	--
90	72	117	153	207	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1962-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME

5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
170	91	69	57	48	41	27	10	.4	.2	.1	.1	.1	.1	.1

14353000 WEST FORK ASHLAND CREEK NEAR ASHLAND, OR

LOCATION.--Lat 42°08'55", long 122°42'55", near line between NW¼ and SW¼ 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 mi<sup>2</sup>, 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 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 above station.

AVERAGE DISCHARGE.--15 years (water years 1925-32, 1976-82), 8.92 ft<sup>3</sup>/s, 11.54 in/yr, 6,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330 ft<sup>3</sup>/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 ft<sup>3</sup>/s Aug. 29, 1931, Sept. 8, 9, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 15, 1974, is the highest since at least 1900. Discharge, 4,780 ft<sup>3</sup>/s by slope-area measurement of peak flow, gage height, 9.5 ft, from floodmarks. Peak believed to be affected by release from debris dams breaking upstream.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1925-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.4	8.4	3.6	1.6	.43	3.3
NOVEMBER	2.4	15	6.1	3.5	.57	5.6
DECEMBER	2.9	39	8.8	8.6	.98	8.0
JANUARY	2.8	21	8.5	5.8	.68	7.8
FEBRUARY	2.5	26	11	7.7	.69	10.2
MARCH	2.8	24	12	5.6	.49	10.5
APRIL	4.5	24	13	6.1	.47	11.8
MAY	4.5	32	18	9.5	.52	16.7
JUNE	3.2	35	15	9.8	.65	13.8
JULY	2.1	13	6.5	3.5	.54	5.9
AUGUST	1.6	6.4	3.7	1.6	.42	3.4
SEPTEMBER	1.8	7.5	3.4	1.4	.41	3.1
ANNUAL	3.3	18	8.9	4.4	.49	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1926-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.1	1.7	1.5	1.4	--	--
3	2.1	1.7	1.5	1.4	--	--
7	2.2	1.7	1.5	1.4	--	--
14	2.3	1.8	1.6	1.5	--	--
30	2.4	1.9	1.6	1.5	--	--
60	2.7	2.1	1.8	1.6	--	--
90	2.9	2.2	2.0	1.8	--	--
120	3.1	2.4	2.1	1.9	--	--
183	3.9	3.0	2.6	2.4	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLDW  
BASED ON PERIOD OF RECORD 1925-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	72	205	378	768	--	--
WEIGHTED SKEW = .587						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1925-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	40	74	99	132	--	--
3	33	58	76	100	--	--
7	27	43	54	66	--	--
15	22	34	42	51	--	--
30	18	29	36	44	--	--
60	16	26	32	40	--	--
90	15	23	28	35	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1925-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
27	21	17	15	12	9.8	7.3	5.6	4.5	3.7	3.4	3.1	2.7	2.5	2.1



## ROGUE RIVER BASIN

14353500 EAST FORK ASHLAND CREEK NEAR ASHLAND, OR

LOCATION.--Lat 42°09'10", long 122°42'30", near line between NE¼ and NW¼ 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 mi<sup>2</sup>, 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 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 ft<sup>3</sup>/s, 15.63 in/yr, 6,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335 ft<sup>3</sup>/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 ft<sup>3</sup>/s Mar. 14, 1977, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 15, 1974, is the highest since at least 1925. Discharge, 5,630 ft<sup>3</sup>/s by slope-area measurement of peak flow, gage height, 10.2 ft from floodmarks. Peak believed to be affected by release from debris dams breaking upstream.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1925-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.1	6.8	3.4	1.2	.35	2.9
NOVEMBER	2.7	16	6.2	4.3	.70	5.4
DECEMBER	2.7	43	9.5	9.9	1.04	8.3
JANUARY	2.7	20	8.2	5.8	.71	7.1
FEBRUARY	2.5	31	11	8.4	.75	9.9
MARCH	2.8	25	11	5.9	.52	9.8
APRIL	3.7	23	12	5.8	.48	10.4
MAY	5.4	34	19	9.8	.51	16.7
JUNE	4.0	51	18	13	.73	16.0
JULY	2.1	18	8.3	5.0	.60	7.2
AUGUST	1.5	6.7	3.9	1.8	.45	3.4
SEPTEMBER	1.7	6.6	3.2	1.3	.39	2.8
ANNUAL	3.2	19	9.4	5.0	.53	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1926-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	2.1	1.6	1.3	1.1	--	--
3	2.2	1.6	1.3	1.1	--	--
7	2.2	1.6	1.4	1.2	--	--
14	2.3	1.8	1.6	1.4	--	--
30	2.5	1.9	1.7	1.5	--	--
60	2.7	2.1	1.8	1.6	--	--
90	2.9	2.2	1.9	1.6	--	--
120	3.1	2.4	2.0	1.8	--	--
183	3.9	3.0	2.5	2.2	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1925-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = .587						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1925-82

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR 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	79	105	139	--	--
3	34	62	83	112	--	--
7	28	46	59	74	--	--
15	23	38	48	60	--	--
30	19	31	40	50	--	--
60	16	27	34	43	--	--
90	15	24	30	38	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1925-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
27	21	18	15	13	11	7.6	5.9	4.6	3.6	3.2	3.0	2.7	2.5	2.0

## 14357500 BEAR CREEK AT MEDFORD, OR

LOCATION.--Lat 42°19'40", long 122°52'10", in NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1915 to June 1920 (no low-flow records), October 1920 to September 1981. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,343.98 ft National Geodetic Vertical Datum of 1929. See WSP 1738 for history of changes prior to Dec. 31, 1947.

REMARKS.--Flow partly regulated since 1924 by Emigrant Lake. Numerous diversions for irrigation above station.

AVERAGE DISCHARGE.--61 years (water years 1921-81), 114 ft<sup>3</sup>/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft<sup>3</sup>/s Dec. 2, 1962, gage height, 8.04 ft; maximum gage height, about 11.0 ft Feb. 20, 1927, from floodmarks, present datum, site then in use; no flow at times.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1921-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	4.7	216	33	32	.98	2.4
NOVEMBER	8.2	246	59	50	.85	4.3
DECEMBER	17	1137	147	195	1.33	10.7
JANUARY	13	1080	221	238	1.08	16.0
FEBRUARY	12	873	223	194	.87	16.2
MARCH	14	787	202	163	.81	14.7
APRIL	4.9	686	197	133	.68	14.3
MAY	1.5	391	134	99	.74	9.7
JUNE	2.1	232	73	55	.75	5.3
JULY	.5	95	29	23	.78	2.1
AUGUST	.4	115	29	27	.93	2.1
SEPTEMBER	.7	92	31	27	.85	2.3
ANNUAL	8.4	304	114	75	.66	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1922-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	9.4	3.2	1.5	.7	.3	.2
3	10	3.4	1.7	.8	.3	.2
7	11	3.9	1.9	.9	.4	.2
14	13	4.3	2.1	1.1	.4	.2
30	15	5.2	2.6	1.3	.6	.3
60	17	6.4	3.3	1.8	.8	.5
90	19	7.5	4.1	2.4	1.2	.7
120	22	9.3	5.5	3.3	1.8	1.2
183	32	15	8.7	5.4	3.0	1.9

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1916-81

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
589	1500	3760	6000	9830	13500	17800
WEIGHTED SKEW = -.091						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1921-81

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	957	2330	3600	5590	7330	9270
3	718	1650	2450	3620	4590	5630
7	532	1150	1640	2330	2880	3440
15	402	820	1140	1560	1880	2200
30	305	616	852	1170	1410	1660
60	240	465	632	852	1020	1180
90	209	401	541	726	864	1000

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1921-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
417	270	205	162	131	106	73	52	38	27	22	18	14	10	5.8

## ROGUE RIVER BASIN

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR

LOCATION.--Lat 42°26'15", long 122°59'10", in SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1905 to September 1982. Prior to October 1921, published as "near Tolo."

GAGE.--Water-stage recorder. Datum of gage is 1,121.78 ft 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. Slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation above station.

AVERAGE DISCHARGE.--77 years (water years 1906-82), 2,963 ft<sup>3</sup>/s, 2,147,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131,000 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 23.43 ft, from rating curve extended above 63,000 ft<sup>3</sup>/s on basis of slope-area measurement of 113,000 ft<sup>3</sup>/s; minimum not determined; minimum daily, 616 ft<sup>3</sup>/s Sept. 6, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1861 reached a stage of about 32 ft, discharge not determined, and flood in February 1890 reached a stage of about 27.5 ft, discharge not determined, from information by Corps of Engineers.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1906-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	846	3799	1403	437	.31	3.9
NOVEMBER	924	8409	2341	1349	.58	6.5
DECEMBER	1073	18830	3675	2790	.76	10.2
JANUARY	1112	11960	4605	2740	.60	12.8
FEBRUARY	1208	12540	4713	2211	.47	13.1
MARCH	1974	12520	4286	1895	.44	11.9
APRIL	1649	7805	4207	1280	.30	11.7
MAY	1279	6702	3908	1297	.33	10.8
JUNE	920	5749	2839	1119	.39	7.9
JULY	747	2701	1607	453	.28	4.5
AUGUST	642	2042	1266	277	.22	3.5
SEPTEMBER	679	1763	1233	227	.18	3.4
ANNUAL	1159	5132	2998	892	.30	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1907-76

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1100	926	841	774	702	656
3	1120	946	861	793	720	673
7	1130	957	870	801	726	677
14	1150	969	879	807	730	680
30	1170	985	892	817	738	686
60	1210	1010	918	841	758	704
90	1240	1040	944	864	777	721
120	1290	1080	974	890	800	742
183	1550	1250	1110	1000	894	826

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1906-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	112000	139000
WEIGHTED SKEW = .201						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1906-76

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	19400	34100	46100	64000	79400	96600
3	14500	24900	33600	46700	58300	71500
7	10800	17500	22900	30900	37800	45400
15	8180	12400	15600	20100	23700	27700
30	6500	9360	11500	14400	16800	19300
60	5480	7610	9090	11000	12500	14000
90	5040	6860	8050	9540	10600	11700

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1906-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
7020	5560	4790	4200	3750	3380	2720	2120	1720	1470	1370	1280	1200	1120	993

## 14361500 ROGUE RIVER AT GRANTS PASS, OR

LOCATION.--Lat 42°25'50", long 123°19'00", in NW¼ 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.

DRAINAGE AREA.--2,459 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1982. Prior to January 1939 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 885.28 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 8, 1957, at datum 3.00 ft higher.

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake, slight regulation by Fish Lake and Emigrant Lake. Large fluctuations at times caused by Savage Rapids Dam 5.5 mi above station. Many diversions from Rogue River and tributaries above station, the largest of which is at Savage Rapids Dam of Grants Pass Irrigation District.

AVERAGE DISCHARGE.--44 years, 3,475 ft<sup>3</sup>/s, 2,518,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 152,000 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 34.15 ft, from rating curve extended above 93,000 ft<sup>3</sup>/s; minimum, 195 ft<sup>3</sup>/s Jan. 30, 1961; minimum daily, 606 ft<sup>3</sup>/s Sept. 10, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1861 reached a stage of about 42 ft, present datum (information furnished by Corps of Engineers). Flood in February 1890 reached a stage of about 35 ft, present datum, and that of Feb. 21, 1927, about 31 ft, present datum, according to local resident.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1940-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	987	4934	1627	686	.42	3.8
NOVEMBER	1132	9086	2841	1605	.56	6.6
DECEMBER	1450	23380	5403	4352	.81	12.5
JANUARY	1797	15170	6741	4178	.62	15.5
FEBRUARY	2469	14600	6087	2467	.41	14.0
MARCH	2118	15320	5423	2746	.51	12.5
APRIL	1874	8395	4546	1357	.30	10.5
MAY	1714	6368	4056	1262	.31	9.4
JUNE	1131	5647	2829	1076	.38	6.5
JULY	817	2335	1473	408	.28	3.4
AUGUST	805	1919	1168	263	.23	2.7
SEPTEMBER	791	1594	1177	211	.18	2.7
ANNUAL	2015	6269	3604	1161	.32	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1941-76

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	990	823	744	684	621	--
3	1000	847	775	721	664	--
7	1020	863	794	742	687	--
14	1030	881	813	762	709	--
30	1060	905	836	786	734	--
60	1110	949	881	831	779	--
90	1170	998	923	866	807	--
120	1260	1080	993	927	857	--
183	1610	1360	1250	1170	1090	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1940-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
22200	41200	73500	97900	132000	158000	--
WEIGHTED SKEW = -.236						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1940-76

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	31400	56200	75200	102000	123000	--
3	23000	40400	54100	74000	90400	--
7	16000	27000	35700	48500	59200	--
15	11600	18300	23400	30500	36200	--
30	8770	13300	16800	21700	25800	--
60	7080	10300	12700	16200	19000	--
90	6410	9070	11000	13600	15800	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1940-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9390	6710	5580	4910	4380	3910	3090	2400	1850	1540	1430	1310	1200	1080	961

## ROGUE RIVER BASIN

## 14362000 APPLEGATE RIVER NEAR COPPER, OR

LOCATION.--Lat 42°03'50", long 123°06'37", in SW¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1982. Prior to January 1939 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,747.51 ft 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. Some storage during winter in Squaw Lakes Reservoir, capacity, 1,100 acre-ft on Squaw Creek above station. Diversions above station from Carberry Creek for irrigation in Thompson Creek basin.

AVERAGE DISCHARGE.--44 years, 447 ft<sup>3</sup>/s, 323,900 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,800 ft<sup>3</sup>/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 ft<sup>3</sup>/s on basis of four slope-area measurements of peak flows made in 1950, 1955, 1964, and 1974; minimum, 1.5 ft<sup>3</sup>/s Dec. 20, 1980, result of regulation at Applegate dam, 0.6 mi upstream.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1939-80

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	29	803	99	129	1.30	1.9
NOVEMBER	29	1549	286	288	1.01	5.3
DECEMBER	45	2617	598	585	.98	11.2
JANUARY	50	3761	846	772	.91	15.8
FEBRUARY	53	2942	773	509	.66	14.5
MARCH	93	1966	672	365	.54	12.6
APRIL	179	1347	727	287	.39	13.6
MAY	189	1418	749	325	.43	14.0
JUNE	112	898	371	217	.58	6.9
JULY	45	342	117	59	.50	2.2
AUGUST	27	118	59	19	.31	1.1
SEPTEMBER	24	91	49	13	.26	.9
ANNUAL	80	1077	444	195	.44	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1940-80

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	28	24	21	18	17
3	36	28	25	22	19	17
7	37	29	26	23	20	18
14	39	30	27	24	21	19
30	41	33	29	26	23	22
60	46	37	33	29	26	24
90	52	42	37	34	30	27
120	62	48	43	38	34	32
183	114	79	65	55	46	40

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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
WEIGHTED SKEW = -.411						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1939-80

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	4540	9100	12800	18100	22400	26900
3	3290	6560	9280	13300	16600	20300
7	2350	4390	5930	8030	9680	11400
15	1700	2900	3740	4830	5650	6450
30	1310	2060	2550	3130	3540	3920
60	1060	1580	1900	2260	2490	2710
90	937	1350	1580	1820	1970	2090

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1390	1020	829	694	592	506	364	229	136	84	70	60	52	45	38

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 mi<sup>2</sup>.

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 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 above station. Cameron (Comstock) ditch diverts as much as 14 ft<sup>3</sup>/s around station on left bank. An average of about 8 ft<sup>3</sup>/s is diverted above 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 ft<sup>3</sup>/s, 281,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft<sup>3</sup>/s Feb. 20, 1927, gage height, 16.0 ft, from rating curve extended above 8,000 ft<sup>3</sup>/s; minimum, 7 ft<sup>3</sup>/s Sept. 2, 1929.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 16.7 ft, from floodmarks.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1926-53

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	20	849	86	153	1.77	1.9
NOVEMBER	29	979	253	278	1.10	5.5
DECEMBER	44	1592	468	444	.95	10.1
JANUARY	37	2287	599	531	.89	12.9
FEBRUARY	93	2270	702	542	.77	15.2
MARCH	301	1548	607	315	.52	13.1
APRIL	232	1539	706	307	.43	15.3
MAY	118	1873	669	394	.59	14.5
JUNE	35	1189	354	295	.83	7.7
JULY	18	324	103	73	.71	2.2
AUGUST	12	119	45	24	.54	1.0
SEPTEMBER	11	77	34	16	.47	.7
ANNUAL	143	892	384	183	.48	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1927-53

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	14	11	8.3	6.1	--
3	23	14	11	8.6	6.4	--
7	24	15	12	9.1	6.9	--
14	26	16	13	10	7.8	--
30	28	18	14	11	8.9	--
60	32	21	16	13	10	--
90	37	25	19	16	12	--
120	45	30	24	20	15	--
183	85	53	42	34	27	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1926-53

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2440	5140	10200	14400	20300	25100	--
WEIGHTED SKEW = -.279						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1926-53

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3380	6520	9170	13200	16600	--
3	2570	4690	6450	9080	11300	--
7	1920	3170	4090	5350	6360	--
15	1410	2170	2720	3450	4020	--
30	1120	1650	2010	2480	2840	--
60	909	1310	1570	1890	2130	--
90	791	1130	1360	1640	1850	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1926-53

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1270	939	758	617	525	444	296	181	112	69	56	46	38	31	23

## 14366000 APPLEGATE RIVER NEAR APPLEGATE, OR

LOCATION.--Lat 42°14'30", long 123°08'20", in NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,285.33 ft 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. Many diversions for irrigation above station. McDonald Creek Canal diverts from McDonald Creek above station for irrigation in Bear Creek basin. Thompson Creek Irrigation Association ditch diverts above station for irrigation in Thompson Creek basin. Fowler-Keeler and Berryman ditches divert above station for irrigation below.

AVERAGE DISCHARGE.--44 years, 551 ft<sup>3</sup>/s, 399,200 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,200 ft<sup>3</sup>/s Jan. 15, 1974, gage height, 20.41 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s on basis of slope-area measurements of flow at gage heights 18.00 ft and 19.57 ft; minimum, 4.6 ft<sup>3</sup>/s Sept. 22-25, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 20, 1927, reached a stage of 18.7 ft, from floodmarks.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1939-80

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	23	1118	118	179	1.52	1.8
NOVEMBER	38	1853	333	336	1.01	5.0
DECEMBER	59	3570	755	783	1.04	11.4
JANUARY	66	4601	1124	1010	.90	17.0
FEBRUARY	68	3915	1020	687	.67	15.4
MARCH	106	2590	873	517	.59	13.2
APRIL	164	1791	876	360	.41	13.3
MAY	218	1745	881	407	.46	13.3
JUNE	96	1156	443	282	.64	6.7
JULY	16	348	104	74	.71	1.6
AUGUST	11	96	39	22	.56	.6
SEPTEMBER	12	116	36	20	.54	.5
ANNUAL	84	1391	548	264	.48	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1940-80

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	10	8.0	6.4	5.0	4.2
3	18	11	8.8	7.1	5.7	4.8
7	19	12	9.8	8.2	6.6	5.8
14	21	14	11	9.4	7.8	6.8
30	24	16	13	11	9.0	7.9
60	30	19	15	13	10	8.6
90	38	25	20	17	14	12
120	52	36	30	26	21	19
183	122	80	63	52	41	35

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	8830	17900	25000	34800	42500	50400
WEIGHTED SKEW = -.435						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1939-80

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	6030	12600	17900	25500	31600	38000
3	4310	8880	12700	18100	22700	27500
7	3070	5850	7940	10700	12900	15100
15	2160	3830	5020	6550	7690	8810
30	1640	2710	3430	4310	4940	5540
60	1310	2050	2510	3030	3380	3710
90	1160	1750	2090	2460	2700	2900

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
1780	1290	1040	862	720	620	435	269	155	86	65	53	41	31	20

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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1946 to September 1958.

GAGE.--Water-stage recorder. Altitude of gage is 1,680 ft, by barometer.

REMARKS.--No regulation or diversion above station.

AVERAGE DISCHARGE.--12 years (water years 1947-58), 16.2 ft<sup>3</sup>/s, 11,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft<sup>3</sup>/s Jan. 18, 1953, gage height, 5.36 ft, from rating curve extended above 550 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 4.92 ft; minimum, 0.8 ft<sup>3</sup>/s Sept. 25, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 28, 1945, reached a stage of about 7.0 ft, from floodmarks.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1947-58

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.3	39	6.0	11	1.79	3.1
NOVEMBER	1.7	37	10	11	1.07	5.2
DECEMBER	2.7	83	25	25	1.00	12.9
JANUARY	6.0	90	48	33	.69	24.5
FEBRUARY	9.5	76	39	19	.50	19.7
MARCH	12	57	28	15	.53	14.4
APRIL	8.1	38	19	9.2	.48	9.9
MAY	3.7	19	9.1	5.1	.57	4.6
JUNE	2.3	14	5.0	3.2	.65	2.5
JULY	1.9	4.9	2.7	1.0	.35	1.4
AUGUST	1.4	3.1	2.0	.6	.28	1.0
SEPTEMBER	1.2	2.6	1.7	.4	.25	.9
ANNUAL	6.1	28	16	6.7	.41	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1948-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1.3	1.0	.9	.8	--	--
3	1.3	1.0	.9	.8	--	--
7	1.4	1.1	1.0	.9	--	--
14	1.4	1.1	1.0	.9	--	--
30	1.5	1.2	1.1	1.0	--	--
60	1.6	1.3	1.2	1.1	--	--
90	1.8	1.5	1.4	1.3	--	--
120	2.0	1.6	1.5	1.4	--	--
183	2.8	2.1	1.8	1.6	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1947-58

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
249	475	860	1150	--	--	--

WEIGHTED SKEW = -.301

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1947-58

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	322	523	611	--	--	--
3	239	364	414	--	--	--
7	153	225	254	--	--	--
15	98	145	166	--	--	--
30	73	107	123	--	--	--
60	51	73	84	--	--	--
90	42	62	72	--	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1947-58

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
63	38	28	21	16	13	8.2	5.2	3.6	2.6	2.2	2.0	1.8	1.6	1.4



## 14369500 APPLEGATE RIVER NEAR WILDERVILLE, OR

LOCATION.--Lat 45°21'15", long 123°24'20", in SE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1955, September 1978 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 947.18 ft 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. Many diversions for irrigation above station. Wilderville ditch diverts up to 16 ft<sup>3</sup>/s 0.3 mi upstream and at the mouth of Jackson Creek.

AVERAGE DISCHARGE.--21 years (water years 1939-55, 1979-82), 733 ft<sup>3</sup>/s, 531,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,500 ft<sup>3</sup>/s Jan. 18, 1953, gage height, 18.3 ft from floodmark, site and datum then in use, from rating curve extended above 12,000 ft<sup>3</sup>/s as explained below; minimum, 0.78 ft<sup>3</sup>/s Aug. 22-24, 1979.

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 ft<sup>3</sup>/s, from rating curve extended above 12,000 ft<sup>3</sup>/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

## MONTHLY AND ANNUAL MEAN DISCHARGES 1939-80

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	34	1840	213	401	1.88	2.5
NOVEMBER	55	1920	482	467	.97	5.6
DECEMBER	167	3117	1013	895	.88	11.7
JANUARY	297	4743	1636	1309	.80	18.9
FEBRUARY	394	3179	1527	920	.60	17.7
MARCH	415	2430	1094	481	.44	12.7
APRIL	448	2085	1078	428	.40	12.5
MAY	294	1893	953	414	.43	11.0
JUNE	99	1456	487	345	.71	5.6
JULY	22	399	98	94	.95	1.1
AUGUST	5.2	116	26	27	1.05	.3
SEPTEMBER	3.5	156	40	37	.92	.5
ANNUAL	264	1311	716	320	.45	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1940-80

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.5	3.3	2.0	1.3	--	--
3	9.4	3.8	2.4	1.6	--	--
7	10	4.3	2.8	2.0	--	--
14	11	4.9	3.2	2.3	--	--
30	13	6.1	4.2	3.1	--	--
60	21	11	7.6	5.7	--	--
90	30	17	13	10	--	--
120	52	32	25	20	--	--
183	165	94	67	50	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4860	12500	30600	48000	76500	--	--
WEIGHTED SKEW = -.182						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1939-80

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	7470	15500	22500	33200	--	--
3	5740	11400	15900	22400	--	--
7	4170	7490	9830	12800	--	--
15	2960	4940	6280	7940	--	--
30	2210	3580	4520	5710	--	--
60	1750	2710	3350	4130	--	--
90	1540	2310	2800	3380	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1939-80

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME															
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%	
2410	1620	1330	1120	959	814	564	358	208	113	79	53	34	21	9.2	

14370000 SLATE CREEK AT WONDER, OR

LOCATION.--Lat 42°21'40", long 123°31'10", in SW¼ 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 mi<sup>2</sup>.

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 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 above station for irrigation.

AVERAGE DISCHARGE.--14 years (water years 1944-57), 80.9 ft<sup>3</sup>/s, 58,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft<sup>3</sup>/s Oct. 29, 1950, gage height, 9.72 ft, from rating curve extended above 2,100 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 8.29 and 9.72 ft; minimum discharge, 0.2 ft<sup>3</sup>/s Aug. 25, 1957.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1946-57

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2.2	213	30	61	2.02	2.9
NOVEMBER	6.5	195	78	68	.87	7.6
DECEMBER	28	581	181	165	.91	17.6
JANUARY	30	546	266	179	.67	25.8
FEBRUARY	67	316	199	75	.38	19.3
MARCH	81	247	143	56	.39	13.9
APRIL	27	202	76	48	.63	7.4
MAY	12	91	35	24	.68	3.4
JUNE	5.9	39	13	8.9	.67	1.3
JULY	2.1	10	4.9	2.5	.51	.5
AUGUST	1.0	4.7	2.3	1.1	.49	.2
SEPTEMBER	1.1	3.9	2.2	.9	.43	.2
ANNUAL	46	154	86	32	.38	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-57

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.9	.7	.6	.6	--	--
3	1.0	.8	.7	.6	--	--
7	1.2	.9	.8	.7	--	--
14	1.3	1.0	.8	.7	--	--
30	1.5	1.1	.9	.8	--	--
60	1.8	1.4	1.2	1.0	--	--
90	2.3	1.7	1.4	1.3	--	--
120	3.2	2.3	2.0	1.7	--	--
183	7.0	4.7	3.9	3.4	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1944-60

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1550	2510	3800	4600	--	--	--
WEIGHTED SKEW = -.517						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-57

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1900	2730	3110	--	--	--
3	1270	1790	2020	--	--	--
7	796	1140	1300	--	--	--
15	521	768	907	--	--	--
30	364	556	681	--	--	--
60	269	394	474	--	--	--
90	228	335	403	--	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-57

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
364	212	146	109	86	68	40	22	11	5.8	4.3	3.2	2.5	1.9	1.4

## ROGUE RIVER BASIN

14371500 GRAVE CREEK AT PEASE BRIDGE, NEAR PLACER, OR

LOCATION.--Lat 42°38'30", long 123°12'40", in SE¼ 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 mi<sup>2</sup> at measuring site 0.5 mi upstream.

PERIOD OF RECORD.--October 1940 to September 1982. Prior to October 1945 monthly discharge only, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 2,354.2 ft 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 above station. Prior to 1945, Columbia upper ditch diverted water about 2 mi above station, bypassing station. Records herein are for measuring site.

AVERAGE DISCHARGE.--37 years, 59.1 ft<sup>3</sup>/s, 36.32 in/yr, 42,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 11.20 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 9.66 ft; minimum, 0.12 ft<sup>3</sup>/s July 15, 1970.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1946-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.2	163	13	28	2.16	1.8
NOVEMBER	3.0	307	62	61	1.00	8.6
DECEMBER	3.2	415	120	105	.88	16.8
JANUARY	5.6	427	144	104	.72	20.2
FEBRUARY	8.3	293	129	66	.51	18.1
MARCH	37	216	109	52	.48	15.3
APRIL	25	215	80	44	.54	11.3
MAY	8.7	100	37	22	.59	5.2
JUNE	4.5	52	12	7.9	.68	1.6
JULY	1.1	9.3	3.7	1.8	.49	.5
AUGUST	.5	5.1	1.7	1.1	.66	.2
SEPTEMBER	.5	7.6	1.8	1.3	.73	.3
ANNUAL	11	122	59	23	.38	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	.7	.5	.4	.3	.3	--
3	.7	.5	.4	.3	.3	--
7	.8	.5	.4	.4	.3	--
14	.8	.5	.4	.4	.3	--
30	.9	.6	.5	.5	.4	--
60	1.2	.8	.7	.6	.5	--
90	1.6	1.1	1.0	.9	.8	--
120	2.4	1.8	1.5	1.4	1.2	--
183	6.3	4.4	3.7	3.2	2.7	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1941-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
949	1650	2810	3680	4890	5860	--
WEIGHTED SKEW = -.121						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	1100	1840	2260	2720	3000	--
3	733	1200	1480	1790	1990	--
7	476	742	898	1070	1180	--
15	313	464	550	643	702	--
30	237	332	381	431	460	--
60	181	253	289	326	347	--
90	155	211	239	266	282	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
231	150	111	86	67	54	34	18	9.0	4.4	3.2	2.3	1.7	1.3	.9

14372300 ROGUE RIVER NEAR AGNESS, OR

LOCATION.--Lat 42°34'50", long 124°03'30", in NE¼NW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1960 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 113.81 ft National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Public Roads).

REMARKS.--Flow regulated since February 1977 by Lost Creek Lake, since December 1980 by Applegate Lake. Slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation and mining.

AVERAGE DISCHARGE.--22 years, 6,149 ft<sup>3</sup>/s, 4,455,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s July 9, 10, 1968.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1961-76

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1320	5070	1909	894	.47	2.4
NOVEMBER	1721	20240	5502	4424	.80	6.9
DECEMBER	4186	43980	11530	9717	.84	14.5
JANUARY	3286	32610	16200	10280	.63	20.3
FEBRUARY	4774	19070	11240	4042	.36	14.1
MARCH	5289	25590	11500	6472	.56	14.4
APRIL	3341	14020	7737	3164	.41	9.7
MAY	2548	11310	6024	2324	.39	7.6
JUNE	1485	6128	3543	1413	.40	4.5
JULY	864	2738	1741	526	.30	2.2
AUGUST	877	2149	1347	346	.26	1.7
SEPTEMBER	935	1799	1336	243	.18	1.7
ANNUAL	3454	11990	6623	2241	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1100	901	811	742	--	--
3	1110	919	829	759	--	--
7	1130	938	847	776	--	--
14	1160	958	863	791	--	--
30	1190	982	886	812	--	--
60	1250	1050	956	884	--	--
90	1320	1110	1010	933	--	--
120	1440	1210	1100	1010	--	--
183	2020	1670	1530	1420	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-76

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
59600	107000	182000	234000	301000	--	--
WEIGHTED SKEW = -.387						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-76

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	87500	148000	191000	246000	--	--
3	63600	112000	151000	207000	--	--
7	43400	75500	102000	140000	--	--
15	28800	46800	60600	80300	--	--
30	19800	30200	38200	49600	--	--
60	15900	23200	28500	35900	--	--
90	13700	19300	23300	28500	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-76

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
20900	13700	10500	8750	7470	6440	5140	3860	2600	1860	1660	1520	1370	1210	1060

## ROGUE RIVER BASIN

14372500 EAST FORK ILLINOIS RIVER NEAR TAKILMA, OR

LOCATION.--Lat 42°00'10", long 123°37'30", in SE¼NE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April to September 1926, April 1927 to April 1932, October 1940 to September 1982. Monthly discharge only for some periods, published in WSP 1318. Records prior to 1942 water year not equivalent owing to large diversions.

GAGE.--Water-stage recorder. Altitude 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Two small diversions for irrigation above station.

AVERAGE DISCHARGE.--41 years (water years 1942-82), 178 ft<sup>3</sup>/s, 57.15 in/yr, 129,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 14.90 ft, present site and datum, from floodmark, from rating curve extended above 4,400 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 4.6 ft<sup>3</sup>/s Nov. 3, 1960.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1942-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	8.3	469	52	86	1.67	2.4
NOVEMBER	12	873	209	180	.86	9.7
DECEMBER	12	1511	359	309	.86	16.7
JANUARY	22	1036	388	248	.64	18.1
FEBRUARY	37	969	332	181	.55	15.5
MARCH	85	606	264	137	.52	12.3
APRIL	74	437	236	96	.41	11.0
MAY	44	382	185	88	.48	8.6
JUNE	31	228	72	39	.55	3.4
JULY	13	55	23	8.6	.37	1.1
AUGUST	7.8	21	13	3.0	.23	.6
SEPTEMBER	7.1	41	13	6.2	.50	.6
ANNUAL	40	315	178	60	.34	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1943-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	8.1	6.9	6.4	6.1	5.8	5.6
3	8.2	7.0	6.5	6.1	5.8	5.6
7	8.5	7.3	6.8	6.4	6.1	5.9
14	8.8	7.5	7.0	6.7	6.3	6.1
30	9.5	8.1	7.6	7.3	6.9	6.7
60	11	9.2	8.6	8.2	7.8	7.6
90	12	11	9.9	9.4	9.0	8.7
120	15	13	12	11	10	9.6
183	38	26	22	18	15	13

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1942-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
2870	4310	6380	7800	9630	11000	12400
WEIGHTED SKEW = -.110						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1942-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3010	4720	5780	7010	7850	8620
3	2090	3220	3880	4600	5060	5470
7	1360	2080	2490	2940	3220	3470
15	867	1310	1560	1840	2020	2180
30	609	892	1050	1220	1330	1430
60	482	690	806	928	1000	1070
90	417	579	664	753	806	851

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1942-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME													
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	95%
642	396	295	239	199	169	122	80	44	22	18	15	13	9.2

## 14375000 SUCKER CREEK NEAR HOLLAND, OR

LOCATION.--Lat 42°09'00", long 123°27'50", in NE¼ 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 mi<sup>2</sup>.

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 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 above station. Most of return flow from these diversions enters creek above station.

AVERAGE DISCHARGE.--24 years (water years 1942-65), 212 ft<sup>3</sup>/s, 153,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 9.28 ft, from floodmark, from estimate of peak based on slope-area survey; minimum observed, 17 ft<sup>3</sup>/s Sept. 29 to Oct. 3, 1941.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1946-65

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	26	312	66	73	1.10	2.5
NOVEMBER	25	391	138	95	.69	5.3
DECEMBER	30	1016	298	272	.91	11.4
JANUARY	77	921	365	275	.75	14.0
FEBRUARY	117	1248	409	247	.60	15.7
MARCH	95	610	311	120	.39	11.9
APRIL	69	594	364	125	.34	14.0
MAY	105	691	340	145	.43	13.1
JUNE	88	361	176	80	.45	6.8
JULY	41	136	66	24	.36	2.5
AUGUST	28	57	39	8.5	.22	1.5
SEPTEMBER	23	40	31	5.1	.16	1.2
ANNUAL	86	339	216	70	.33	100

 MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	22	21	20	--	--
3	26	22	21	20	--	--
7	26	23	22	21	--	--
14	27	24	22	21	--	--
30	28	25	23	22	--	--
60	31	27	25	24	--	--
90	34	30	28	27	--	--
120	39	33	30	28	--	--
183	69	50	42	36	--	--

 MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1942-65

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	--	--
WEIGHTED SKEW = -.231						

 MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-65

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2290	3950	5100	6560	--	--
3	1650	2690	3390	4240	--	--
7	1110	1780	2250	2860	--	--
15	796	1190	1460	1810	--	--
30	608	891	1090	1350	--	--
60	512	715	835	970	--	--
90	454	604	680	753	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-65

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
647	488	399	338	290	250	185	120	78	52	44	38	34	31	27

## 14375100 SUCKER CREEK BELOW LITTLE GRAYBACK CREEK, NEAR HOLLAND, OR

LOCATION.--Lat 42°09'35", long 123°28'40", in NE¼SW¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,713.92 ft 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 above station. Return flow from these diversions enters creek above station.

AVERAGE DISCHARGE.--17 years, 240 ft<sup>3</sup>/s, 38.85 in/yr, 173,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,550 ft<sup>3</sup>/s Jan. 15, 1974, gage height, 8.20 ft; minimum, 12 ft<sup>3</sup>/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 ft<sup>3</sup>/s, from estimate based on slope-area measurement of peak flow at site 0.7 mi upstream.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1966-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	22	89	44	17	.40	1.5
NOVEMBER	31	911	195	221	1.13	6.8
DECEMBER	31	1191	353	303	.86	12.3
JANUARY	36	1153	504	333	.66	17.5
FEBRUARY	43	918	388	207	.53	13.5
MARCH	93	953	408	219	.54	14.2
APRIL	101	700	349	177	.51	12.1
MAY	105	617	329	171	.52	11.4
JUNE	63	345	167	99	.59	5.8
JULY	29	128	67	28	.42	2.3
AUGUST	18	58	40	11	.28	1.4
SEPTEMBER	21	61	34	9.9	.29	1.2
ANNUAL	54	463	239	112	.47	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1967-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	18	16	14	--	--
3	24	18	16	14	--	--
7	24	18	16	14	--	--
14	25	19	16	14	--	--
30	27	21	19	17	--	--
60	30	25	22	20	--	--
90	33	28	25	24	--	--
120	37	32	30	28	--	--
183	60	46	41	38	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1900	3370	5610	7150	9120	--	--
WEIGHTED SKEW = -.399						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1966-82

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	2510	4440	5620	6930	--	--
3	1930	3440	4320	5230	--	--
7	1360	2340	2890	3460	--	--
15	931	1530	1850	2190	--	--
30	677	1050	1250	1450	--	--
60	556	832	977	1120	--	--
90	497	739	868	999	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1966-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
754	547	438	370	309	265	188	127	78	51	43	38	33	30	26

14375500 WEST FORK ILLINOIS RIVER BELOW ROCK CREEK, NEAR O'BRIEN, OR

LOCATION.--Lat 42°02'20", long 123°44'50", in SW¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1954 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,516.14 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Three small diversions from Elk Creek for irrigation above station.

AVERAGE DISCHARGE.--28 years (water years 1955-82), 216 ft<sup>3</sup>/s, 69.18 in/yr, 156,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 16.05 ft, from rating curve extended above 6,200 ft<sup>3</sup>/s, on basis of slope-area measurement at gage height 14.79 ft; minimum, 1.5 ft<sup>3</sup>/s Sept. 2-4, 1974.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1955-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	4.7	300	51	66	1.29	2.0
NOVEMBER	17	1315	294	273	.93	11.3
DECEMBER	12	1616	511	386	.76	19.6
JANUARY	49	1176	518	296	.57	19.9
FEBRUARY	86	1112	450	239	.53	17.3
MARCH	86	801	394	203	.52	15.1
APRIL	47	767	230	155	.67	8.8
MAY	32	302	99	79	.80	3.8
JUNE	15	66	28	9.8	.35	1.1
JULY	6.6	18	12	3.3	.28	.5
AUGUST	3.3	17	7.0	2.9	.41	.3
SEPTEMBER	3.0	64	11	12	1.14	.4
ANNUAL	49	407	216	79	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1956-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	4.1	3.1	2.6	2.3	1.9	--
3	4.3	3.3	2.7	2.4	1.9	--
7	4.5	3.4	2.9	2.5	2.1	--
14	4.7	3.6	3.1	2.7	2.3	--
30	5.1	4.0	3.5	3.1	2.7	--
60	6.1	4.6	4.0	3.5	3.0	--
90	7.3	5.6	4.9	4.5	4.0	--
120	9.5	7.4	6.6	6.1	5.6	--
183	22	15	12	10	8.8	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE 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	5360	7630	9280	11500	13300	--
WEIGHTED SKEW = .280						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1955-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3590	5310	6510	8060	9260	--
3	2650	3800	4550	5470	6140	--
7	1750	2510	2990	3570	3990	--
15	1160	1650	1950	2310	2560	--
30	851	1170	1370	1580	1730	--
60	680	942	1080	1230	1320	--
90	579	783	884	981	1040	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1955-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
976	558	379	281	218	172	102	55	30	16	12	9.2	7.4	6.0	4.8



## ROGUE RIVER BASIN

14377000 ILLINOIS RIVER AT KERBY, OR

LOCATION.--Lat 42°11'50", long 123°39'30", in NW¼ 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 mi<sup>2</sup>.

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 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 above station. Some diversions for mining during winter months.

AVERAGE DISCHARGE.--35 years (water years 1927-61), 1,209 ft<sup>3</sup>/s, 875,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft<sup>3</sup>/s Dec. 22, 1955, gage height, 16.4 ft, present datum, from floodmark, from rating curve extended above 9,600 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 15.7 ft, present datum; minimum observed, 9.6 ft<sup>3</sup>/s Aug. 16, 1959.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1927-61

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	29	3363	287	589	2.05	2.0
NOVEMBER	40	3041	1188	948	.80	8.1
DECEMBER	183	7305	2246	1653	.74	15.4
JANUARY	293	7375	2778	1783	.64	19.0
FEBRUARY	703	7833	2797	1622	.58	19.2
MARCH	711	5499	2101	1053	.50	14.4
APRIL	455	3753	1580	698	.44	10.8
MAY	199	2136	1001	521	.52	6.9
JUNE	98	1274	425	272	.64	2.9
JULY	38	296	107	62	.58	.7
AUGUST	16	127	45	23	.51	.3
SEPTEMBER	17	77	40	15	.38	.3
ANNUAL	576	2088	1209	419	.35	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1928-61

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	19	15	13	10	--
3	28	20	16	13	11	--
7	29	20	17	14	12	--
14	30	22	18	16	13	--
30	32	23	20	17	15	--
60	36	26	22	20	17	--
90	42	31	26	23	21	--
120	58	41	34	30	25	--
183	190	111	81	61	44	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1927-61

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
15600	25000	38100	46600	56900	64200	--
WEIGHTED SKEW = -.403						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1927-61

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	18000	27800	34200	42300	48100	--
3	12900	19600	23700	28600	31800	--
7	8860	13100	15500	18300	20100	--
15	6050	8610	10100	11700	12800	--
30	4230	6120	7370	8910	10000	--
60	3380	4770	5620	6620	7310	--
90	2910	4060	4780	5640	6240	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1927-61

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
4570	2870	2160	1740	1440	1220	845	540	261	101	72	56	44	37	29

14377100 ILLINOIS RIVER NEAR KERBY, OR

LOCATION.--Lat 42°13'55", long 123°39'45", in SE¼SE¼ 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1961 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,198.8 ft 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 above station.

AVERAGE DISCHARGE.--21 years, 1,312 ft<sup>3</sup>/s, 46.89 in/yr, 950,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 45.28 ft, from floodmark, site and datum then in use, from rating curve extended above 30,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 14 ft<sup>3</sup>/s Aug. 11, 13, 14, 1977.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1962-82

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	42	1771	287	382	1.33	1.8
NOVEMBER	128	6344	1641	1521	.93	10.4
DECEMBER	115	9242	2952	2189	.74	18.7
JANUARY	236	7184	3154	1861	.59	20.0
FEBRUARY	358	4419	2402	1092	.45	15.2
MARCH	863	4757	2247	1158	.52	14.2
APRIL	433	4518	1649	1003	.61	10.4
MAY	321	2439	932	546	.59	5.9
JUNE	134	646	317	152	.48	2.0
JULY	41	206	91	40	.43	.6
AUGUST	21	116	48	22	.45	.3
SEPTEMBER	27	358	69	73	1.07	.4
ANNUAL	275	2372	1312	511	.39	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1963-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED 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	19	17	--	--
3	31	24	20	18	--	--
7	32	25	21	19	--	--
14	33	26	22	20	--	--
30	35	27	24	21	--	--
60	41	31	26	23	--	--
90	48	36	32	29	--	--
120	67	53	48	45	--	--
183	181	135	119	108	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1962-82

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

17900 26300 39400 49100 62500 -- --

WEIGHTED SKEW = .193

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1962-82

PERIOD (CON- SECU- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	20500	31400	37700	44700	--	--
3	14500	22600	27600	33600	--	--
7	9770	15200	18600	22500	--	--
15	6450	9750	11800	14200	--	--
30	4820	6740	7740	8750	--	--
60	3870	5390	6140	6840	--	--
90	3350	4530	5050	5510	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1962-82

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
5370	3210	2310	1790	1480	1230	832	536	267	119	89	67	52	42	32

## 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 mi<sup>2</sup>.

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 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 above station for irrigation.

AVERAGE DISCHARGE.--14 years (water years 1943-56), 74.1 ft<sup>3</sup>/s, 53,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 5,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 20-24, 1951, Sept. 6-10, 1955.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1946-56

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	1.6	226	30	66	2.25	3.2
NOVEMBER	3.4	195	82	69	.84	8.8
DECEMBER	21	488	156	145	.93	16.8
JANUARY	29	510	212	153	.72	22.9
FEBRUARY	56	315	146	72	.49	15.7
MARCH	69	192	106	37	.35	11.4
APRIL	52	162	100	40	.40	10.8
MAY	11	111	62	35	.57	6.7
JUNE	7.8	68	23	17	.77	2.4
JULY	3.2	12	7.0	3.5	.50	.8
AUGUST	1.6	6.1	3.3	1.6	.49	.4
SEPTEMBER	1.4	3.7	2.3	.7	.32	.2
ANNUAL	38	128	77	29	.37	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1947-56

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	1.4	1.1	.9	.9	--	--
3	1.4	1.1	.9	.9	--	--
7	1.5	1.1	1.0	.9	--	--
14	1.6	1.2	1.1	1.0	--	--
30	1.9	1.4	1.2	1.1	--	--
60	2.3	1.7	1.4	1.3	--	--
90	2.8	2.0	1.7	1.5	--	--
120	3.9	2.7	2.3	2.0	--	--
183	9.4	5.9	4.8	4.1	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1946-56

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

1240 2140 3610 4720 -- -- --

WEIGHTED SKEW = -.113

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1946-56

PERIOD (CON- SEC- UTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	1480	2460	3120	--	--	--
3	1030	1680	2090	--	--	--
7	668	1050	1270	--	--	--
15	428	673	821	--	--	--
30	287	456	575	--	--	--
60	221	332	405	--	--	--
90	188	274	327	--	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1946-56

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
289	168	124	102	84	70	48	29	14	6.4	4.7	3.5	2.9	2.3	1.7

14378000 ILLINOIS RIVER NEAR SELMA, OR

LOCATION.--Lat 42°22'45", long 123°48'40", in SW¼ 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 mi<sup>2</sup>, Includes that of Panther Creek.

PERIOD OF RECORD.--October 1956 to January 1968.

GAGE.--Water-stage recorder. Datum of gage is 829.18 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1967, water-stage recorder at same site and datum.

REMARKS.--No regulation. Many diversions above station for irrigation, mining, and logpond operation. Records include flow of Panther Creek.

AVERAGE DISCHARGE.--11 years, 2,335 ft<sup>3</sup>/s, 1,690,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 34.0 ft, from floodmark, from rating curve extended above 33,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s Aug. 28, Sept. 2, 1959.

STATISTICAL SUMMARIES

MONTHLY AND ANNUAL MEAN DISCHARGES 1957-67

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	86	2732	584	809	1.39	2.1
NOVEMBER	161	4490	2171	1206	.56	7.7
DECEMBER	432	16430	4308	4404	1.02	15.3
JANUARY	1115	9953	5264	3597	.68	18.7
FEBRUARY	2516	15010	5704	3599	.63	20.2
MARCH	1340	7566	4272	1917	.45	15.1
APRIL	1448	6776	3145	1532	.49	11.1
MAY	764	4517	1820	1139	.63	6.4
JUNE	328	915	561	191	.34	2.0
JULY	120	267	188	47	.25	.7
AUGUST	65	130	105	20	.19	.4
SEPTEMBER	74	124	98	17	.17	.3
ANNUAL	1709	3735	2335	637	.27	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1958-67

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	73	67	64	62	--	--
3	75	68	65	62	--	--
7	76	68	65	62	--	--
14	77	70	66	63	--	--
30	83	72	67	63	--	--
60	96	82	75	69	--	--
90	108	94	88	83	--	--
120	132	110	101	96	--	--
183	358	233	183	149	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1957-67

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT						
1.25 80%	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
38400	55100	80800	99600	--	--	--
WEIGHTED SKEW = .226						

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1957-67

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	36600	54500	73200	--	--	--
3	26600	39700	52400	--	--	--
7	18800	27900	35600	--	--	--
15	12500	17900	22300	--	--	--
30	8810	12500	15500	--	--	--
60	6720	9020	10900	--	--	--
90	5690	7560	9030	--	--	--

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1957-67

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
9670	5910	4050	3060	2430	2010	1350	903	471	209	160	133	112	94	81

## ROGUE RIVER BASIN

14378200 ILLINOIS RIVER NEAR AGNESS, OR

LOCATION.--Lat 42°31'15", long 124°02'35", in SW¼NW¼ 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 mi<sup>2</sup>, 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No regulation. Many diversions above 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 ft<sup>3</sup>/s, 56.27 in/yr, 2,966,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 225,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 14-16, 1977.

## STATISTICAL SUMMARIES

## MONTHLY AND ANNUAL MEAN DISCHARGES 1961-81

MONTH	MINIMUM (CFS)	MAXIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	167	4696	816	999	1.22	1.7
NOVEMBER	339	23060	4953	4875	.98	10.1
DECEMBER	262	26830	8833	5953	.67	17.9
JANUARY	591	25660	10370	6730	.65	21.0
FEBRUARY	818	15420	7893	3680	.47	16.0
MARCH	2187	14550	7369	4076	.55	15.0
APRIL	1315	11750	4558	2326	.51	9.2
MAY	1116	8195	2684	1808	.67	5.4
JUNE	510	1690	903	309	.34	1.8
JULY	221	574	377	82	.22	.8
AUGUST	131	384	237	58	.25	.5
SEPTEMBER	149	1334	288	257	.89	.6
ANNUAL	800	7799	4094	1453	.35	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW  
BASED ON PERIOD OF RECORD 1962-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	20 5%	50 2%	100 1%
1	161	138	127	120	--	--
3	162	139	128	120	--	--
7	165	140	129	121	--	--
14	169	144	133	124	--	--
30	178	153	142	135	--	--
60	200	168	154	145	--	--
90	229	196	185	178	--	--
120	287	240	222	210	--	--
183	611	451	388	344	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW  
BASED ON PERIOD OF RECORD 1961-81

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

53500 78000 114000 138000 170000 -- --

WEIGHTED SKEW = -.012

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW  
BASED ON PERIOD OF RECORD 1961-81

PERIOD (CON- SEC- TIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%

1	62100	95100	114000	134000	--	--
3	46700	72000	87300	104000	--	--
7	31900	49500	60400	73000	--	--
15	20700	31000	37200	44300	--	--
30	15700	21700	24600	27300	--	--
60	12800	17400	19400	21100	--	--
90	10900	14500	16000	17200	--	--

## DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1961-81

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME														
5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	85%	90%	95%
16500	9770	7160	5570	4580	3810	2480	1520	833	437	337	280	237	202	173





STATION NO.	STATION NAME	PAGE
14306500	Alsea River near Tidewater .....	155
14169300	Amazon Creek at Eugene .....	71
14366000	Applegate River near Applegate .....	228
14362000	Applegate River near Copper .....	226
14363000	Applegate River near Ruch .....	227
14369500	Applegate River near Wilderville .....	230
14357500	Bear Creek at Medford .....	223
14248700	Bear Creek near Svensen .....	141
14337500	Big Butte Creek near McLeod .....	210
14306900	Big Creek near Roosevelt Beach .....	160
14138800	Blazed Alder Creek near Rhododendron .....	17
14162200	Blue River at Blue River .....	62
14161100	Blue River below Tidbits Creek, near Blue River .....	59
14162000	Blue River near Blue River .....	61
14179000	Breitenbush River above Canyon Creek, near Detroit .....	81
14139500	Bull Run River below Lake Ben Morrow .....	20
14138850	Bull Run River near Multnomah Falls .....	18
14201500	Butte Creek at Monitor .....	117
14172000	Calapooia River at Albany .....	77
14172000	Calapooia River at Holley .....	76
14320700	Calapooya Creek near Oakland .....	188
14139700	Cedar Creek near Brightwood .....	21
14400000	Chetco River near Brookings .....	243
14209500	Clackamas River above Three Lynx Creek .....	135
14208000	Clackamas River at Big Bottom .....	130
14210000	Clackamas River at Estacada:	
	Before the construction of North Fork Dam .....	136
	After the completion of North Fork Dam .....	137
14211000	Clackamas River near Clackamas .....	138
14152500	Coast Fork Willamette River at London .....	41
14157000	Coast Fork Willamette River at Saginaw .....	48
14153500	Coast Fork Willamette River below Cottage Grove Dam .....	42
14157500	Coast Fork Willamette River near Goshen .....	49
14309000	Cow Creek near Azalea .....	169
14310000	Cow Creek near Riddle .....	171
14167000	Coyote Creek near Crow .....	70
14308700	Days Creek at Days Creek .....	168
14377500	Deer Creek near Dryden .....	240
14312200	Deer Creek near Roseburg .....	177
14306810	Deer Creek near Salado .....	159
14306600	Drift Creek near Salado .....	156



STATION NO.	STATION NAME	PAGE
14353500	East Fork Ashland Creek near Ashland .....	222
14205500	East Fork Dairy Creek at Mountaindale .....	125
14372500	East Fork Illinois River near Takilma .....	134
14322000	Elk Creek near Drain .....	190
14308500	Elk Creek near Drew .....	167
14338000	Elk Creek near Trail .....	212
14350000	Emigrant Creek near Ashland:	
	Before Green Springs powerplant diversion .....	219
	After Green Springs powerplant diversion .....	220
14151000	Fall Creek below Winberry Creek, near Fall Creek	
	Before construction of Fall Creek Dam.....	37
	After completion of Fall Creek Dam.....	38
14150300	Fall Creek near Lowell .....	35
14306400	Five Rivers near Fisher .....	154
14306800	Flynn Creek near Salado .....	158
14204500	Gales Creek near Forest Grove .....	124
14204000	Gales Creek near Gales Creek .....	123
14163000	Gate Creek at Vida .....	65
14371500	Grave Creek at Pease Bridge, near Placer .....	232
14195000	Haskins Creek near McMinnville .....	109
14144900	Hills Creek above Hills Creek Reservoir, near Oakridge ....	25
14377000	Illinois River at Kerby .....	238
14378200	Illinois River near Agness .....	242
14377100	Illinois River near Kerby .....	239
14378000	Illinois River near Selma .....	241
14331000	Imnaha Creek near Prospect .....	204
14307700	Jackson Creek near Tiller .....	165
14211500	Johnson Creek at Sycamore .....	139
14307500	Lake Creek at Triangle Lake .....	161
14387580	Lake Creek near Deadwood .....	162
14312500	Lake Creek near Diamond Lake .....	178
14151500	Little Fall Creek near Fall Creek .....	39
14182500	Little North Santiam River near Mehama .....	84
14318000	Little River at Peel .....	184
14141500	Little Sandy River near Bull Run .....	22
14131000	Little Zigzag River at Twin Bridges, near Rhododendron ....	11
14170000	Long Tom River at Monroe:	
	Before construction of Fern Ridge Dam .....	72
	After completion of Fern Ridge Dam .....	73
14166500	Long Tom River near Noti .....	69
14311500	Lookingglass Creek at Brockway .....	175
14161500	Lookout Creek near Blue River .....	60

STATION NO.	STATION NAME	PAGE
14190000	Luckiamute River at Pedee .....	99
14189500	Luckiamute River near Hoskins .....	98
14190500	Luckiamute River near Suver .....	100
14171000	Marys River near Philomath .....	75
14206000	McKay Creek near North Plains .....	126
14159000	McKenzie River at McKenzie Bridge:	
	Before the construction of Smith River Dam .....	54
	After the completion of Smith River Dam .....	55
14158500	McKenzie River at outlet of Clear Lake .....	51
14158850	McKenzie River below Trail Bridge Dam, near Belknap Springs	53
14165500	McKenzie River near Coburg .....	67
14165000	McKenzie River near Vida:	
	Before the construction of Smith River, Cougar, and Blue	
	River dams .....	63
	After the completion of Smith River, Cougar, and Blue	
	River dams .....	64
14326500	Middle Fork Coquille River near Myrtle Point .....	197
14333000	Middle Fork Rogue River near Prospect .....	205
14145500	Middle Fork Willamette River above Salt Creek, near	
	Oakridge:	
	Before the construction of Hills Creek Dam .....	26
	After the completion of Hills Creek Dam .....	27
14152000	Middle Fork Willamette River at Jasper .....	40
14148000	Middle Fork Willamette River below North Fork, near	
	Oakridge:	
	Before the construction of Hills Creek Dam .....	32
	After the completion of Hills Creek Dam .....	33
14150000	Middle Fork Willamette River near Dexter .....	34
14144800	Middle Fork Willamette River near Oakridge .....	24
14186500	Middle Santiam River at mouth, near Foster .....	91
14185800	Middle Santiam River near Cascadia .....	88
14186000	Middle Santiam River near Foster .....	90
14306036	Mill Creek near Toledo .....	152
14193300	Mill Creek near Willamina .....	106
14165000	Mohawk River near Springfield .....	66
14198500	Mollala River above Pine Creek, near Wilhoit .....	113
14200000	Molalla River near Canby .....	114
14156500	Mosby Creek at mouth, near Cottage Grove .....	47
14156000	Mosby Creek near Cottage Grove .....	46
14306700	Needle Branch near Salado .....	157
14301000	Nehalem River near Foss .....	144
14303600	Nestucca River near Beaver .....	149
14302900	Nestucca River near Fairdale .....	147
14303000	Nestucca River near McMinnville .....	148
14306100	North Fork Alsea River at Alsea .....	153
14138900	North Fork Bull Run River near Multnomah Falls .....	19
14326800	North Fork Coquille River near Fairview .....	198
14327000	North Fork Coquille River near Myrtle Point .....	199
14342500	North Fork Little Butte Creek at Fish Lake, near Lakecreek.	217

STATION NO.	STATION NAME	PAGE
14343000	North Fork Little Butte Creek near Lakecreek .....	218
14147500	North Fork of Middle Fork Willamette River near Oakridge ..	31
14307645	North Fork Siuslaw River near MINERVA .....	164
14311000	North Myrtle Creek near Myrtle Creek .....	173
14183000	North Santiam River at Mehama:	
	Before the construction of Detroit and Big Cliff dams ...	85
	After the completion of Detroit and Big Cliff dams .....	86
14181500	North Santiam River at Niagara:	
	Before the construction of Detroit and Big Cliff dams ...	82
	After the completion of Detroit and Big Cliff dams .....	83
14178000	North Santiam River below Boulder Creek, near Detroit .....	80
14316500	North Umpqua River above Copeland Creek, near Toketee Falls	180
14317500	North Umpqua River above Rock Creek, near Glide .....	182
14315500	North Umpqua River at Toketee Falls .....	179
14319500	North Umpqua River at Winchester .....	187
14318500	North Umpqua River near Glide .....	185
14197000	North Yamhill River at Pike .....	111
14194300	North Yamhill River near Fairdale .....	108
14196500	North Yamhill River near Pike .....	110
14209000	Oak Grove Fork above powerplant intake:	
	Before regulation by Timothy Lake .....	133
	After regulation by Timothy Lake .....	134
14208500	Oak Grove Fork at Timothy Meadows .....	131
14208700	Oak Grove Fork near Government Camp .....	132
14311200	Olalla Creek near Tenmile .....	174
14368500	Powell Creek near Williams .....	229
14202000	Pudding River at Aurora .....	118
14201000	Pudding River near Mount Angel .....	116
14185900	Quartzville Creek near Cascadia .....	89
14333500	Red Blanket Creek near Prospect .....	206
14190700	Rickreall Creek near Dallas .....	101
14317600	Rock Creek near Glide .....	183
14170500	Rock Creek near Philomath .....	74
14327500	Rogue River above Bybee Creek, near Union Creek .....	200
14328000	Rogue River above Prospect .....	201
14339000	Rogue River at Dodge Bridge, near Eagle Point .....	213
14361500	Rogue River at Grants Pass .....	225
14359000	Rogue River at Raygold, near Central Point .....	224
14330000	Rogue River below Prospect .....	202
14335000	Rogue River below South Fork Rogue River, near Prospect ...	208
14372300	Rogue River near Agness .....	233
14337600	Rogue River near McLeod .....	211

STATION NO.	STATION NAME	PAGE
14154500	Row River above Pitcher Creek, near Dorena .....	43
14155500	Row River near Cottage Grove:	
	Before the construction of Dorena Dam .....	44
	After the completion of Dorena Dam .....	45
14146500	Salmon Creek near Oakridge .....	29
14135500	Salmon River above Boulder Creek, near Brightwood .....	15
14135000	Salmon River at Welches .....	14
14134500	Salmon River below Linney Creek .....	13
14134000	Salmon River near Government Camp .....	12
14146000	Salt Creek near Oakridge .....	28
14142500	Sandy River below Bull Run River, near Bull Run .....	23
14137000	Sandy River near Marmot .....	16
14189000	Santiam River at Jefferson:	
	Before the construction of three upstream dams .....	96
	After the completion of three upstream dams .....	97
14203000	Scoggins Creek near Gaston .....	121
14305500	Siletz River at Siletz .....	150
14200300	Silver Creek at Silverton .....	115
14307620	Siuslaw River near Mapleton .....	163
14370000	Slate Creek near Wonder .....	231
14158790	Smith River above Smith River Reservoir, near Belknap Spgs. .	52
14335500	South Fork Big Butte Creek near Butte Falls .....	209
14324600	South Fork Coquille River above Panther Creek, near Illahe. .	193
14325000	South Fork Coquille River at Powers .....	196
14324700	South Fork Coquille River near Illahe .....	194
14324900	South Fork Coquille River near Powers .....	195
14339500	South Fork Little Butte Creek at Big Elk ranger station ...	214
14341500	South Fork Little Butte Creek near Lakecreek:	
	Before diversion in Dead Indian Collection Canal .....	215
	After diversion in Dead Indian Collection Canal .....	216
14159200	South Fork McKenzie River above Cougar Lake, near Rainbow .	56
14159500	South Fork McKenzie River near Rainbow:	
	Before the construction of Cougar Dam .....	57
	After the completion of Cougar Dam .....	58
14330500	South Fork Rogue River above Imnaha Creek, near Prospect ..	203
14334700	South Fork Rogue River, south of Prospect .....	207
14310700	South Myrtle Creek near Myrtle Creek .....	172
14187500	South Santiam River at Waterloo:	
	Before construction of Green Peter and Foster dams .....	93
	After completion of Green Peter and Foster dams .....	94
14185000	South Santiam River below Cascadia .....	87
14308000	South Umpqua River at Tiller .....	166
14312000	South Umpqua River near Brockway .....	176
14194000	South Yamhill River near Whiteson .....	107
14192500	South Yamhill River near Willamina .....	104

STATION NO.	STATION NAME	PAGE
14316700	Steamboat Creek near Glide .....	181
14375100	Sucker Creek below Little Grayback Creek, near Holland ....	236
14375000	Sucker Creek near Holland .....	235
14319200	Sutherlin Creek at Sutherlin .....	186
14323200	Tenmile Creek near Lakeside .....	191
14188800	Thomas Creek near Scio .....	95
14302500	Trask River near Tillamook .....	146
14206500	Tualatin River at Farmington .....	127
14207500	Tualatin River at West Linn:	
	Excluding flow in Oswego Canal .....	128
	Including flow in Oswego Canal .....	129
14203500	Tualatin River near Dilley .....	122
14202500	Tualatin River near Gaston:	
	Before Hillsboro water-supply diversion .....	119
	After Hillsboro water-supply diversion .....	120
14321000	Umpqua River near Elkton .....	189
14147000	Waldo Lake Outlet near Oakridge .....	30
14353000	West Fork Ashland Creek near Ashland .....	221
14309500	West Fork Cow Creek near Glendale .....	170
14375500	West Fork Illinois River below Rock Creek, near O'Brien ...	237
14324500	West Fork Millicoma River near Allegany .....	192
14187000	Wiley Creek near Foster .....	92
14174000	Willamette River at Albany:	
	Before the construction of nine upstream reservoirs .....	78
	After the completion of nine upstream reservoirs .....	79
14166000	Willamette River at Harrisburg .....	68
14211700	Willamette River at Portland .....	140
14191000	Willamette River at Salem:	
	Before the construction of twelve upstream reservoirs ...	102
	After the completion of twelve upstream reservoirs .....	103
14158000	Willamette River at Springfield .....	50
14198000	Willamette River at Wilsonville .....	112
14193900	Willamina Creek near Willamina .....	105
14301500	Wilson River near Tillamook .....	145
14150800	Winberry Creek near Lowell .....	36
14306030	Yaquina River near Chitwood .....	151
14251500	Youngs River near Astoria:	
	Before water-supply diversion .....	142
	After water-supply diversion .....	143