# PUYALLUP RIVER BASIN

## 12099600 BOISE CREEK AT BUCKLEY, WA

LOCATION.--Lat 47°10'34", long 122°01'02", in NE $^1/_4$ SE $^1/_4$ sec.34, T.20 N., R.6 E., King County, Hydrologic Unit 17110014, on left bank at downstream side of county road bridge, 1.0 mi northeast of Buckley, and at mile 0.1.

DRAINAGE AREA.--15.4 $mi^2$.

PERIOD OF RECORD.--March 1977 to September 1981, December 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above NGVD of 1929, from topographic map. Prior to January 25, 1984, at site 25 ft upstream at datum 0.91 ft higher. Prior to Mar. 27, 1996, at site 10 ft downstream, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair except for discharges above 200 $ft^3/s$, which are poor. Flow partly regulated by millpond at mile 5.6. Diversions upstream from station for domestic and industrial use. Interbasin diversion from Scatter Creek of about 2 $ft^3/s$ during low-flow periods enters Boise Creek upstream from millpond. U.S. Geological Survey satellite telemeter at station. Chemical analyses November 1961 to July 1964.

AVERAGE DISCHARGE.--24 years (water years 1978-81, 1983-2002), 32.8 $ft^3/s$, 23,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 $ft^3/s$ Feb. 8, 1996, gage height, 4.26 ft from rating curve extended above 180 $ft^3/s$ on basis of slope-area measurement of peak flow 0.94 mi upstream from station; minimum discharge, 1.7 $ft^3/s$ Sept. 19, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 $ft^3/s$ and maximum (*):

| Date | Time | Discharge ($ft^3/s$) | Gage height (ft) | Date | Time | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|---|---|---|---|
| Nov. 14 | 1030 | 304 | 3.06 | Mar. 19 | 2245 | *315 | *3.11 |
| Nov. 22 | 2000 | 242 | 2.77 | Apr. 14 | 0030 | 263 | 2.87 |
| Dec. 13 | 1630 | 242 | 2.76 | | | | |

Minimum discharge, 4.4 $ft^3/s$ Sept. 25, 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.6 | 29 | 60 | 28 | 51 | 34 | 46 | 29 | 23 | 29 | 8.1 | 6.9 |
| 2 | 5.7 | 27 | 52 | 37 | 44 | 31 | 45 | 29 | 21 | 23 | 7.8 | 7.4 |
| 3 | 5.3 | 23 | 53 | 27 | 43 | 29 | 41 | 28 | 20 | 19 | 8.2 | 10 |
| 4 | 5.2 | 22 | 43 | 26 | 38 | 28 | 40 | 27 | 19 | 18 | 8.7 | 7.4 |
| 5 | 4.9 | 36 | 49 | 25 | 39 | 33 | 41 | 29 | 33 | 16 | 11 | 6.8 |
| 6 | 5.3 | 23 | 62 | 30 | 39 | 33 | 45 | 29 | 22 | 15 | 11 | 6.8 |
| 7 | 5.5 | 19 | 48 | 109 | 53 | 29 | 46 | 27 | 20 | 16 | 8.4 | 6.9 |
| 8 | 9.2 | 17 | 45 | 103 | 79 | 26 | 42 | 26 | 20 | 19 | 8.2 | 6.8 |
| 9 | 8.7 | 15 | 45 | 78 | 52 | 25 | 48 | 24 | 19 | 14 | 7.8 | 6.7 |
| 10 | 11 | 14 | 56 | 61 | 47 | 25 | 62 | 23 | 17 | 12 | 7.7 | 5.8 |
| 11 | 12 | 13 | 53 | 50 | 43 | 59 | 59 | 22 | 16 | 12 | 7.7 | 6.0 |
| 12 | 8.0 | 16 | 46 | 47 | 37 | 75 | 65 | 22 | 16 | 11 | 7.3 | 6.3 |
| 13 | 8.5 | 29 | 142 | 39 | 34 | 60 | 102 | 25 | 15 | 11 | 7.1 | 6.0 |
| 14 | 11 | 205 | 123 | 36 | 31 | 49 | 189 | 31 | 15 | 11 | 7.0 | 5.6 |
| 15 | 12 | 122 | 89 | 32 | 29 | 46 | 115 | 29 | 15 | 11 | 7.0 | 5.4 |
| 16 | 9.8 | 91 | 116 | 29 | 29 | 42 | 85 | 26 | 14 | 11 | 6.9 | 5.9 |
| 17 | 11 | 65 | 117 | 28 | 29 | 42 | 71 | 26 | 14 | 10 | 6.7 | 6.6 |
| 18 | 8.9 | 48 | 85 | 28 | 34 | 37 | 59 | 25 | 18 | 9.9 | 6.5 | 5.6 |
| 19 | 12 | 46 | 78 | 40 | 36 | 108 | 51 | 24 | 19 | 10 | 8.4 | 5.9 |
| 20 | 13 | 40 | 62 | 72 | 36 | 211 | 46 | 27 | 14 | 9.9 | 8.8 | 7.3 |
| 21 | 14 | 48 | 53 | 72 | 70 | 99 | 42 | 34 | 13 | 9.8 | 7.0 | 6.3 |
| 22 | 17 | 106 | 45 | 51 | 81 | 72 | 40 | 36 | 12 | 9.2 | 6.5 | 5.7 |
| 23 | 21 | 111 | 39 | 41 | 106 | 60 | 36 | 33 | 12 | 9.4 | 6.5 | 5.2 |
| 24 | 19 | 72 | 36 | 58 | 81 | 55 | 33 | 28 | 12 | 9.1 | 6.7 | 4.9 |
| 25 | 31 | 57 | 33 | 123 | 59 | 55 | 31 | 26 | 11 | 9.1 | 6.8 | 4.7 |
| 26 | 21 | 47 | 30 | 82 | 48 | 51 | 31 | 25 | 11 | 9.7 | 7.4 | 4.5 |
| 27 | 28 | 39 | 29 | 60 | 41 | 47 | 46 | 26 | 13 | 9.7 | 7.0 | 4.7 |
| 28 | 21 | 67 | 31 | 48 | 37 | 44 | 35 | 39 | 50 | 9.5 | 6.6 | 5.1 |
| 29 | 15 | 82 | 27 | 41 | --- | 46 | 31 | 35 | 71 | 11 | 6.3 | 7.2 |
| 30 | 19 | 60 | 26 | 54 | --- | 44 | 29 | 29 | 41 | 9.1 | 6.6 | 5.4 |
| 31 | 39 | --- | 29 | 64 | --- | 42 | --- | 26 | --- | 8.3 | 6.9 | --- |
| TOTAL | 417.6 | 1589 | 1802 | 1619 | 1346 | 1637 | 1652 | 865 | 616 | 391.7 | 234.6 | 185.8 |
| MEAN | 13.5 | 53.0 | 58.1 | 52.2 | 48.1 | 52.8 | 55.1 | 27.9 | 20.5 | 12.6 | 7.57 | 6.19 |
| MAX | 39 | 205 | 142 | 123 | 106 | 211 | 189 | 39 | 71 | 29 | 11 | 10 |
| MIN | 4.9 | 13 | 26 | 25 | 29 | 25 | 29 | 22 | 11 | 8.3 | 6.3 | 4.5 |
| AC-FT | 828 | 3150 | 3570 | 3210 | 2670 | 3250 | 3280 | 1720 | 1220 | 777 | 465 | 369 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2002, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MEAN | 13.8 | 46.6 | 52.3 | 55.2 | 55.9 | 44.7 | 39.9 | 31.0 | 23.7 | 14.8 | 9.15 | 9.38 |
| MAX | 29.8 | 124 | 96.2 | 162 | 145 | 76.7 | 69.3 | 57.5 | 55.1 | 35.5 | 16.3 | 29.5 |
| (WY) | 1986 | 1991 | 1978 | 1984 | 1996 | 1997 | 1991 | 1984 | 1990 | 1983 | 1993 | 1978 |
| MIN | 4.65 | 7.85 | 18.7 | 20.9 | 17.0 | 25.1 | 16.5 | 15.6 | 8.45 | 6.20 | 4.72 | 3.37 |
| (WY) | 1990 | 1980 | 2001 | 2001 | 2001 | 1978 | 1995 | 1982 | 1982 | 1987 | 1987 | 1989 |

| SUMMARY STATISTICS | FOR 2001 CALENDAR YEAR | | FOR 2002 WATER YEAR | | WATER YEARS 1977 - 2002 | |
|---|---|---|---|---|---|---|
| ANNUAL TOTAL | 9999.6 | | 12355.7 | | | |
| ANNUAL MEAN | 27.4 | | 33.9 | | 32.8 | |
| HIGHEST ANNUAL MEAN | | | | | 50.4 | 1991 |
| LOWEST ANNUAL MEAN | | | | | 21.3 | 2001 |
| HIGHEST DAILY MEAN | 205 | Nov 14 | 211 | Mar 20 | 898 | Feb 8 1996 |
| LOWEST DAILY MEAN | 4.9 | Oct 5 | 4.5 | Sep 26 | 2.0 | Sep 23 1989 |
| ANNUAL SEVEN-DAY MINIMUM | 5.4 | Oct 1 | 5.0 | Sep 22 | 2.4 | Sep 20 1989 |
| ANNUAL RUNOFF (AC-FT) | 19830 | | 24510 | | 23730 | |
| 10 PERCENT EXCEEDS | 60 | | 70 | | 66 | |
| 50 PERCENT EXCEEDS | 19 | | 28 | | 23 | |
| 90 PERCENT EXCEEDS | 6.8 | | 6.8 | | 6.9 | |