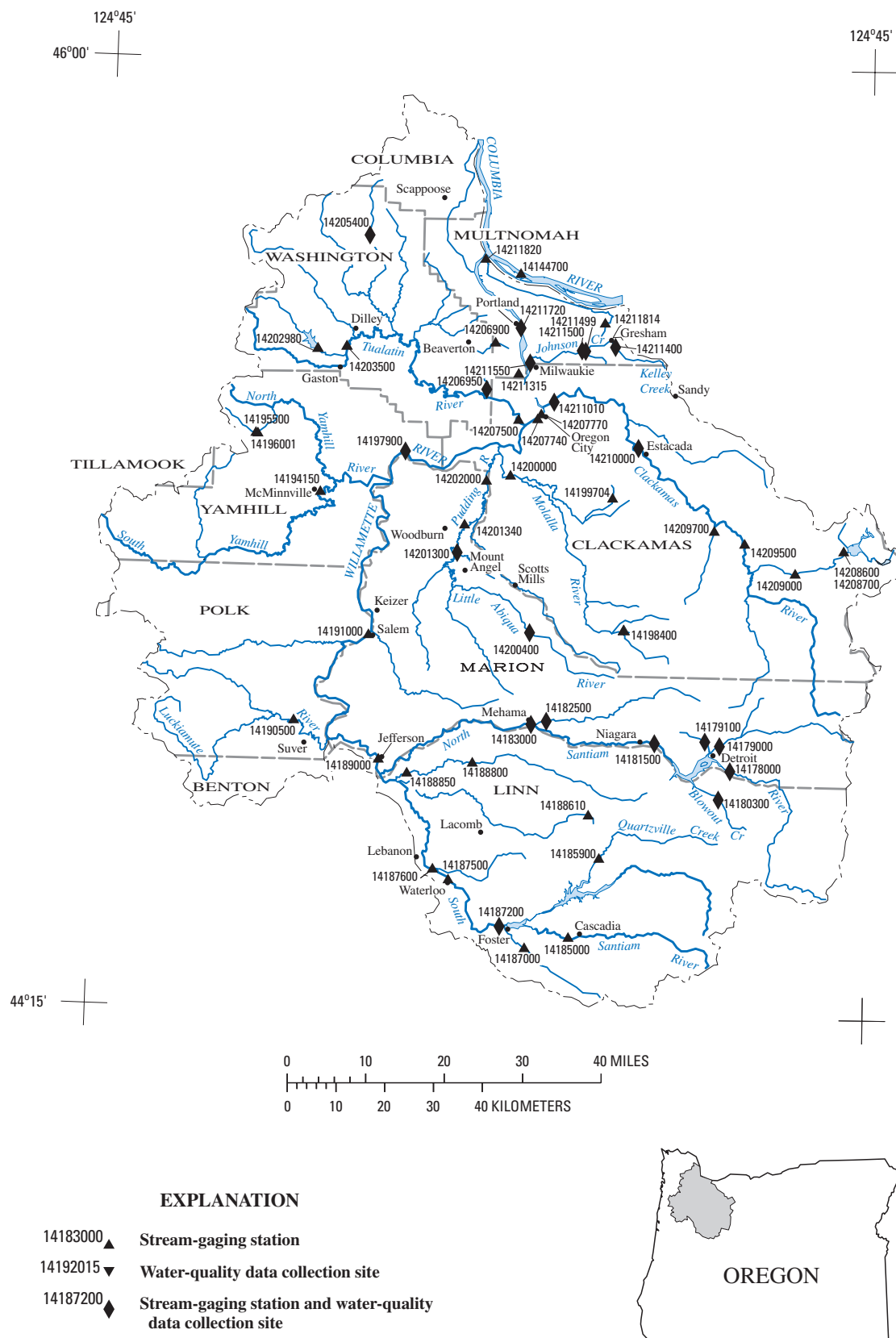
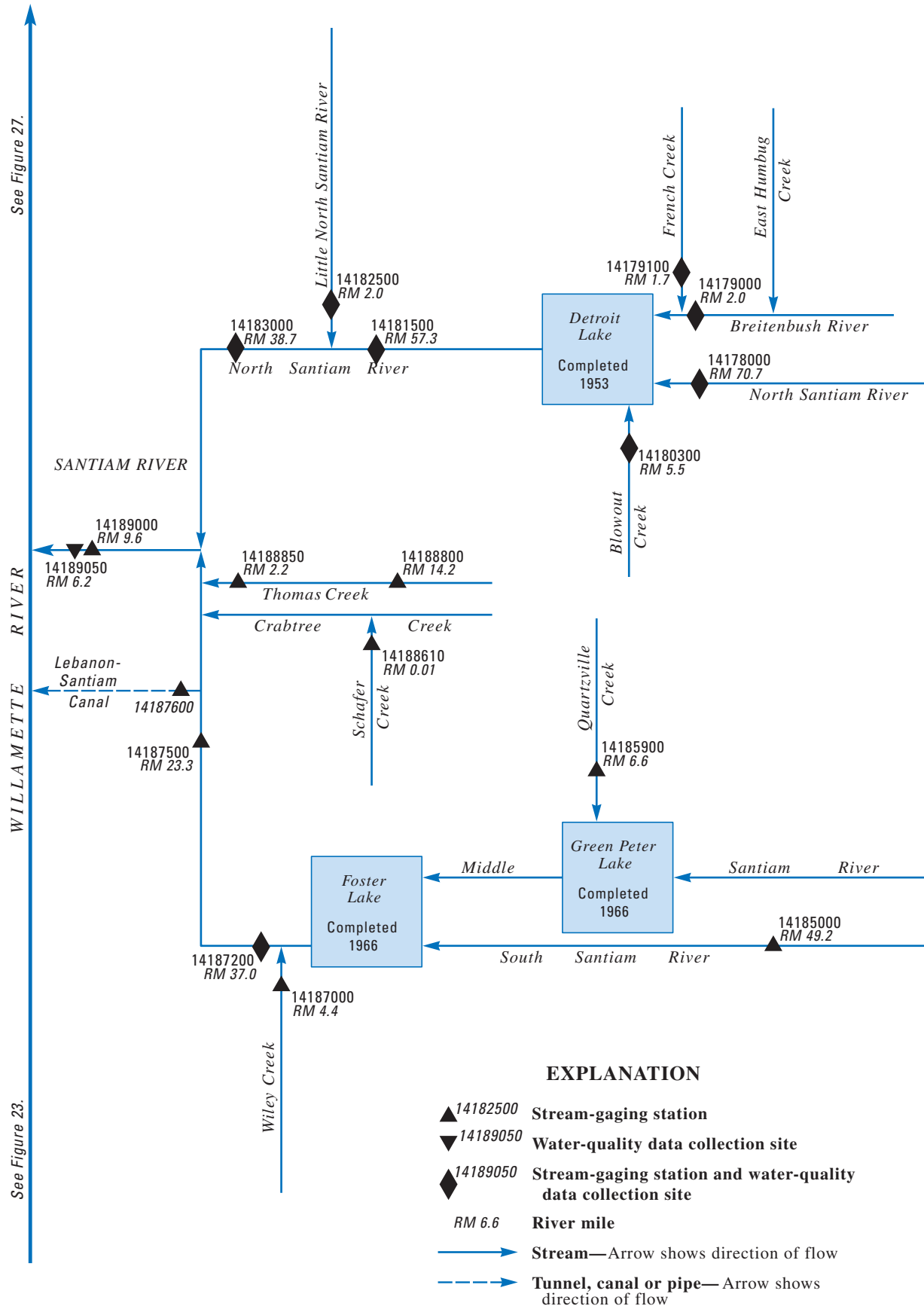




**Figure 25.** Location of surface-water and water-quality stations in the Willamette River Basin, downstream from the Luckiamute River.



**Figure 26.** Schematic diagram showing gaging stations and diversions in the Santiam River Basin.

## WILLAMETTE RIVER BASIN

## 14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR

LOCATION.--Lat 44°23'31", long 122°29'47", in NW ¼ SW ¼ sec.31, T.13 S., R.3 E., Linn County, Hydrologic Unit 17090006, on left bank, 0.2 mi upstream from Mouse Creek, 0.8 mi southwest of Cascadia, and at mile 49.2.

DRAINAGE AREA.--174 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1935 to current year. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 775 ft above NGVD of 1929, from topographic map. Prior to Sept. 26, 1989, at site 0.7 mi downstream at datum 759.88 above NGVD of 1929. Prior to Nov. 1, 1935, nonrecording gage at site 0.7 mi downstream at different datum.

REMARKS.--Records good. No regulation or diversion upstream from station. Continuous water-quality records for the period June 1962 to September 1967 and February 1969 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--70 years (water years 1936-2005), 811 ft<sup>3</sup>/s, 63.35 in/yr, 587,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft<sup>3</sup>/s Feb. 7, 1996, gage height, 18.11 ft, from rating curve extended above 10,000 ft<sup>3</sup>/s; minimum discharge, 23 ft<sup>3</sup>/s Dec. 1, 1935, at site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,700 ft<sup>3</sup>/s and maximum (\*):

| Date   | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Mar 27 | 1730 | *7,400                            | *8.75               |      |      |                                   |                     |

No other peak greater than base discharge.

Minimum discharge, 41 ft<sup>3</sup>/s, Sept. 28-30, gage height, 2.03 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG   | SEP   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 1     | 134    | 666    | 462    | 357    | 360    | 322    | 1,480  | 589    | 474    | 284    | 91    | 53    |
| 2     | 127    | 969    | 442    | 336    | 336    | 303    | 1,410  | 641    | 489    | 265    | 91    | 51    |
| 3     | 121    | 1,590  | 403    | 312    | 317    | 286    | 1,270  | 549    | 434    | 250    | 87    | 51    |
| 4     | 115    | 1,040  | 379    | 294    | 330    | 268    | 1,350  | 568    | 389    | 236    | 84    | 50    |
| 5     | 111    | 777    | 366    | 274    | 371    | 253    | 1,230  | 576    | 412    | 223    | 81    | 49    |
| 6     | 135    | 620    | 390    | 267    | 350    | 240    | 1,110  | 735    | 587    | 221    | 79    | 48    |
| 7     | 157    | 511    | e700   | 272    | 370    | 231    | 1,250  | 845    | 1,270  | 220    | 77    | 48    |
| 8     | 137    | 439    | 3,020  | 270    | 349    | 224    | 1,470  | 918    | 1,160  | 205    | 76    | 47    |
| 9     | 289    | 388    | 5,000  | 258    | 326    | 216    | 1,630  | 1,180  | 873    | 217    | 74    | 48    |
| 10    | 246    | 348    | 4,230  | 247    | 303    | 208    | 1,390  | 2,120  | 698    | 224    | 72    | 91    |
| 11    | 190    | 317    | 3,240  | 238    | 291    | 202    | 1,590  | 2,050  | 669    | 214    | 70    | 93    |
| 12    | 164    | 293    | 2,480  | 238    | 304    | 196    | 1,440  | 1,540  | 670    | 192    | 69    | 68    |
| 13    | 146    | 276    | 1,700  | 264    | 486    | 185    | 1,230  | 1,190  | 600    | 181    | 68    | 59    |
| 14    | 133    | 258    | 1,740  | 258    | 434    | 175    | 1,140  | 985    | 537    | 172    | 65    | 55    |
| 15    | 126    | 247    | 1,490  | 281    | 387    | e170   | 1,030  | 934    | 482    | 165    | 63    | 52    |
| 16    | 120    | 249    | 1,190  | 423    | 354    | e170   | 1,160  | 1,410  | 465    | 158    | 61    | 51    |
| 17    | 168    | 226    | 967    | 550    | 326    | e240   | 1,490  | 1,670  | 623    | 153    | 61    | 51    |
| 18    | 550    | 277    | 818    | 1,900  | 308    | 199    | 1,350  | 1,730  | 582    | 146    | 62    | 50    |
| 19    | 583    | 279    | 710    | 1,500  | 317    | 249    | 1,190  | 1,850  | 554    | 139    | 61    | 49    |
| 20    | 424    | 246    | 625    | 1,090  | 668    | 333    | 1,040  | 1,680  | 582    | 133    | 59    | 47    |
| 21    | 446    | 228    | 557    | 865    | 642    | 390    | 920    | 1,670  | 504    | 128    | 57    | 46    |
| 22    | 597    | 216    | 503    | 708    | 544    | 393    | 865    | 1,460  | 453    | 131    | 56    | 45    |
| 23    | 941    | 209    | 455    | 607    | 471    | 465    | 1,000  | 1,190  | 410    | 126    | 56    | 44    |
| 24    | 855    | 284    | 417    | 531    | 418    | 569    | 1,110  | 983    | 370    | 119    | 55    | 44    |
| 25    | 666    | 829    | 391    | 473    | 380    | 555    | 1,010  | 820    | 342    | 114    | 54    | 43    |
| 26    | 561    | 813    | 420    | 448    | 354    | 761    | 894    | 695    | 322    | 111    | 52    | 43    |
| 27    | 465    | 609    | 378    | 456    | 331    | 5,190  | 815    | 604    | 331    | 106    | 51    | 42    |
| 28    | 402    | 493    | 351    | 406    | 336    | 4,280  | 738    | 542    | 398    | 102    | 49    | 41    |
| 29    | 372    | 435    | 353    | 466    | ---    | 2,960  | 654    | 510    | 340    | 99     | 54    | 41    |
| 30    | 449    | 409    | 346    | 421    | ---    | 2,230  | 588    | 454    | 307    | 96     | 60    | 45    |
| 31    | 754    | ---    | 333    | 389    | ---    | 1,620  | ---    | 422    | ---    | 93     | 56    | ---   |
| TOTAL | 10,684 | 14,541 | 34,856 | 15,399 | 10,763 | 24,083 | 34,844 | 33,110 | 16,327 | 5,223  | 2,051 | 1,545 |
| MEAN  | 345    | 485    | 1,124  | 497    | 384    | 777    | 1,161  | 1,068  | 544    | 168    | 66.2  | 51.5  |
| MAX   | 941    | 1,590  | 5,000  | 1,900  | 668    | 5,190  | 1,630  | 2,120  | 1,270  | 284    | 91    | 93    |
| MIN   | 111    | 209    | 333    | 238    | 291    | 170    | 588    | 422    | 307    | 93     | 49    | 41    |
| AC-FT | 21,190 | 28,840 | 69,140 | 30,540 | 21,350 | 47,770 | 69,110 | 65,670 | 32,380 | 10,360 | 4,070 | 3,060 |
| CFSM  | 1.98   | 2.79   | 6.46   | 2.85   | 2.21   | 4.46   | 6.68   | 6.14   | 3.13   | 0.97   | 0.38  | 0.30  |
| IN.   | 2.28   | 3.11   | 7.45   | 3.29   | 2.30   | 5.15   | 7.45   | 7.08   | 3.49   | 1.12   | 0.44  | 0.33  |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2005, BY WATER YEAR (WY)

| MEAN | 286    | 1,077  | 1,523  | 1,447  | 1,356  | 1,170  | 1,136  | 922    | 513    | 165    | 79.8   | 93.8   |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MAX  | 1,296  | 2,442  | 4,319  | 3,278  | 3,326  | 2,913  | 2,052  | 1,639  | 1,261  | 466    | 222    | 318    |
| (WY) | (1951) | (1943) | (1965) | (1953) | (1996) | (1972) | (1937) | (1960) | (1937) | (1983) | (1968) | (1959) |
| MIN  | 31.6   | 27.6   | 82.3   | 107    | 130    | 324    | 356    | 282    | 101    | 54.2   | 35.9   | 40.9   |
| (WY) | (1988) | (1937) | (1977) | (1977) | (1977) | (1941) | (1941) | (1987) | (1992) | (1940) | (1992) | (1987) |

WILLAMETTE RIVER BASIN

14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1936 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 270,471                |        | 203,426             |        |                         |              |
| ANNUAL MEAN              | 739                    |        | 557                 |        | 811                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 1,280                   | 1972         |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 359                     | 1977         |
| HIGHEST DAILY MEAN       | 8,390                  | Jan 29 | 5,190               | Mar 27 | 23,200                  | Feb 7, 1996  |
| LOWEST DAILY MEAN        | 50                     | Aug 21 | 41                  | Sep 28 | 23                      | Dec 1, 1936  |
| ANNUAL SEVEN-DAY MINIMUM | 52                     | Aug 15 | 43                  | Sep 23 | 24                      | Nov 25, 1936 |
| ANNUAL RUNOFF (AC-FT)    | 536,500                |        | 403,500             |        | 587,800                 |              |
| ANNUAL RUNOFF (CFSM)     | 4.25                   |        | 3.20                |        | 4.66                    |              |
| ANNUAL RUNOFF (INCHES)   | 57.82                  |        | 43.49               |        | 63.35                   |              |
| 10 PERCENT EXCEEDS       | 1,690                  |        | 1,300               |        | 1,800                   |              |
| 50 PERCENT EXCEEDS       | 502                    |        | 354                 |        | 499                     |              |
| 90 PERCENT EXCEEDS       | 98                     |        | 58                  |        | 61                      |              |

e Estimated



2005 Water Year  
SANTIAM RIVER BASIN

**14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR**

Latitude: 44° 23 ' 31"

Longitude: 122° 29 ' 47"

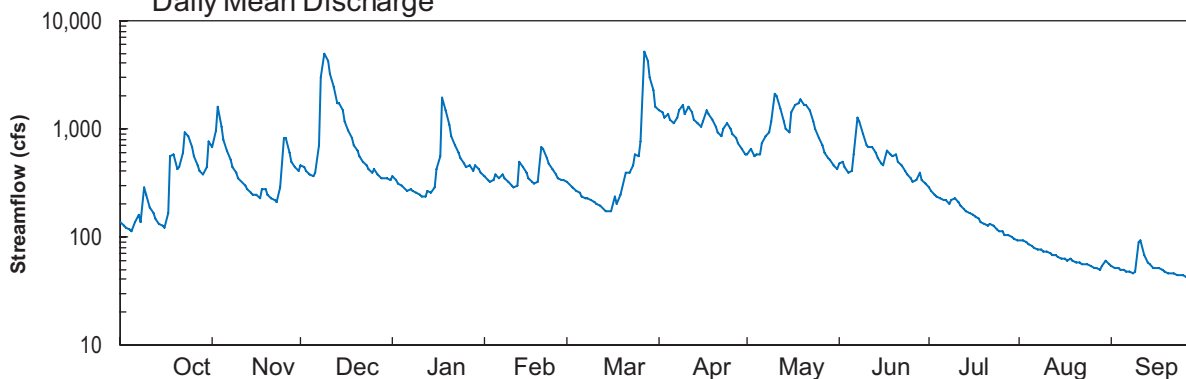
Hydrologic Unit Code: 17090006

Linn County

Datum: 775 feet

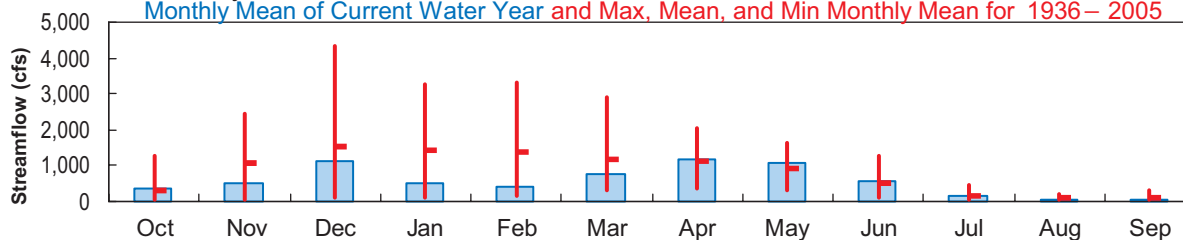
Drainage Area: 174 mi<sup>2</sup>

**Daily Mean Discharge**

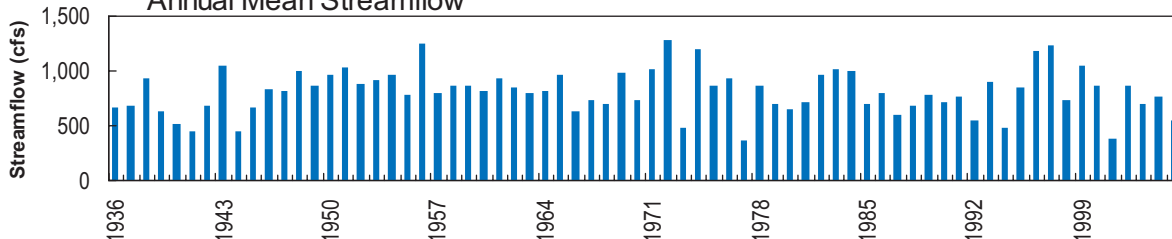


**Monthly Statistics**

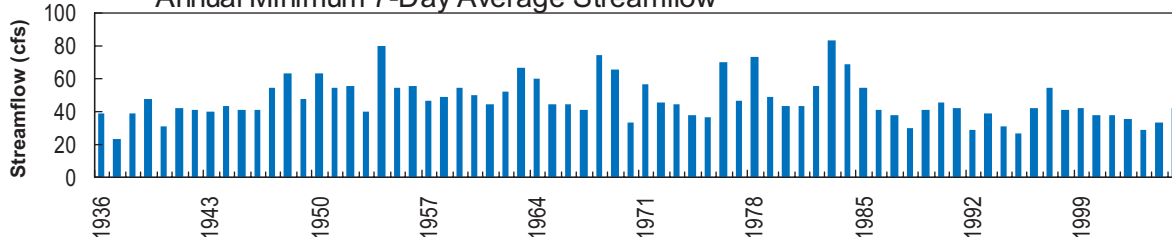
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1936–2005



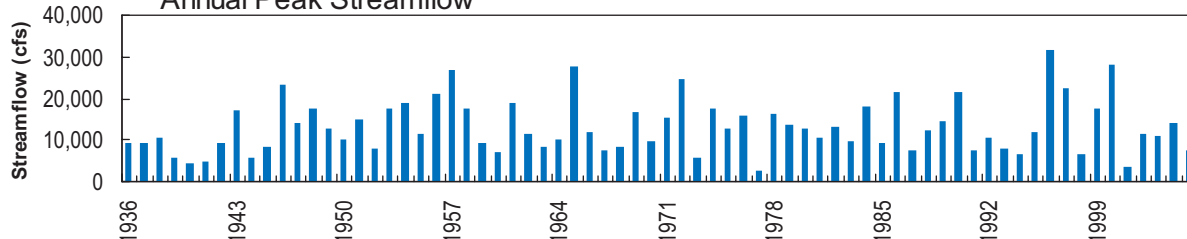
**Annual Mean Streamflow**



**Annual Minimum 7-Day Average Streamflow**



**Annual Peak Streamflow**



## WILLAMETTE RIVER BASIN

## 14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR

LOCATION.--Lat 44°32'25", long 122°26'05", in NW ¼ 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 current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,050 ft above NGVD of 1929, from topographic map. Aug. 13, 1963 to Dec. 22, 1964, water-stage recorder on left bank at present datum.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station. Continuous water-quality records for the period August 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--41 years (water years 1964, 1966-2005), 647 ft<sup>3</sup>/s, 88.62 in/yr, 468,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft<sup>3</sup>/s Feb. 7, 1996, gage height, 20.54 ft, from rating curve extended above 8,000 ft<sup>3</sup>/s on the basis of slope-area measurement of peak flow; minimum discharge, 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft<sup>3</sup>/s and maximum (\*):

| Date   | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date   | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|--------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| Dec 10 | 0230 | 4,990                             | 10.17               | Jan 18 | 0700 | 5,000                             | 10.18               |
| Dec 11 | 0930 | 4,560                             | 9.84                | Mar 27 | 1300 | *6,780                            | *11.41              |

Minimum discharge, 31 ft<sup>3</sup>/s, Sept. 29, 30, gage height, 3.14 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL   | AUG   | SEP   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 1     | 113    | 492    | 360    | 336    | 384    | 255    | 1,290  | 411    | 355    | 193   | 66    | 41    |
| 2     | 106    | 1,040  | 331    | 318    | 345    | 244    | 1,230  | 402    | 404    | 180   | 65    | 40    |
| 3     | 100    | 1,400  | 293    | 282    | 319    | 234    | 1,100  | 360    | 341    | 170   | 63    | 40    |
| 4     | 94     | 825    | 273    | 257    | 318    | 215    | 1,130  | 366    | 299    | 160   | 62    | 39    |
| 5     | 89     | 600    | 266    | 233    | 340    | 201    | 973    | 348    | 376    | 151   | 60    | 38    |
| 6     | 168    | 471    | 283    | 224    | 320    | 189    | 898    | 402    | 1,030  | 155   | 59    | 38    |
| 7     | 158    | 389    | 581    | 232    | 301    | 179    | 1,120  | 465    | 1,340  | 150   | 58    | 37    |
| 8     | 135    | 329    | 3,050  | 221    | 285    | 171    | 1,310  | 481    | 972    | 141   | 57    | 37    |
| 9     | 354    | 286    | 3,360  | 206    | 272    | 163    | 1,350  | 565    | 694    | 158   | 56    | 40    |
| 10    | 307    | 254    | 3,800  | 194    | 262    | 155    | 1,060  | 1,090  | 548    | 156   | 55    | 88    |
| 11    | 217    | 230    | 3,840  | 185    | 258    | 148    | 1,270  | 1,000  | 489    | 155   | 54    | 64    |
| 12    | 174    | 209    | 2,180  | 192    | 294    | 141    | 1,140  | 739    | 455    | 140   | 53    | 49    |
| 13    | 148    | 193    | 1,330  | 219    | 468    | 133    | 945    | 580    | 421    | 131   | 51    | 44    |
| 14    | 130    | 178    | 1,360  | 215    | 394    | 126    | 857    | 510    | 379    | 124   | 50    | 41    |
| 15    | 119    | 172    | 1,150  | 224    | 341    | 120    | 806    | 502    | 340    | 118   | 49    | 40    |
| 16    | 111    | 168    | 880    | 415    | 303    | 124    | 1,410  | 869    | 328    | 113   | 48    | 40    |
| 17    | 155    | 152    | 704    | 1,080  | 274    | 181    | 1,610  | 1,030  | 513    | 108   | 48    | 43    |
| 18    | 1,020  | 187    | 586    | 4,100  | 254    | 145    | 1,250  | 1,280  | 540    | 103   | 48    | 40    |
| 19    | 958    | 196    | 505    | 1,960  | 271    | 242    | 1,030  | 1,300  | 475    | 99    | 47    | 39    |
| 20    | 534    | 172    | 446    | 1,170  | 517    | 327    | 872    | 1,100  | 458    | 94    | 46    | 37    |
| 21    | 445    | 157    | 398    | 848    | 472    | 371    | 766    | 1,170  | 395    | 91    | 45    | 36    |
| 22    | 504    | 148    | 368    | 666    | 402    | 361    | 728    | 1,030  | 352    | 94    | 45    | 36    |
| 23    | 639    | 146    | 334    | 555    | 350    | 382    | 842    | 815    | 315    | 89    | 44    | 35    |
| 24    | 607    | 277    | 304    | 476    | 312    | 406    | 891    | 662    | 285    | 84    | 43    | 35    |
| 25    | 511    | 1,010  | 286    | 418    | 286    | 391    | 758    | 551    | 261    | 81    | 42    | 34    |
| 26    | 446    | 718    | 353    | 383    | 266    | 1,430  | 662    | 472    | 241    | 79    | 41    | 33    |
| 27    | 378    | 490    | 318    | 364    | 249    | 5,490  | 605    | 416    | 245    | 75    | 41    | 33    |
| 28    | 325    | 383    | 291    | 329    | 260    | 3,480  | 577    | 376    | 262    | 73    | 40    | 32    |
| 29    | 298    | 320    | 289    | 506    | ---    | 2,340  | 495    | 338    | 232    | 71    | 42    | 32    |
| 30    | 417    | 304    | 285    | 472    | ---    | 1,600  | 443    | 308    | 210    | 69    | 44    | 36    |
| 31    | 565    | ---    | 283    | 421    | ---    | 1,180  | ---    | 288    | ---    | 67    | 42    | ---   |
| TOTAL | 10,325 | 11,896 | 29,087 | 17,701 | 9,117  | 21,124 | 29,418 | 20,226 | 13,555 | 3,672 | 1,564 | 1,217 |
| MEAN  | 333    | 397    | 938    | 571    | 326    | 681    | 981    | 652    | 452    | 118   | 50.5  | 40.6  |
| MAX   | 1,020  | 1,400  | 3,840  | 4,100  | 517    | 5,490  | 1,610  | 1,300  | 1,340  | 193   | 66    | 88    |
| MIN   | 89     | 146    | 266    | 185    | 249    | 120    | 443    | 288    | 210    | 67    | 40    | 32    |
| AC-FT | 20,480 | 23,600 | 57,690 | 35,110 | 18,080 | 41,900 | 58,350 | 40,120 | 26,890 | 7,280 | 3,100 | 2,410 |
| CFSM  | 3.36   | 4.00   | 9.46   | 5.76   | 3.28   | 6.87   | 9.89   | 6.58   | 4.55   | 1.19  | 0.51  | 0.41  |
| IN.   | 3.87   | 4.46   | 10.91  | 6.64   | 3.42   | 7.92   | 11.03  | 7.58   | 5.08   | 1.38  | 0.59  | 0.46  |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

| MEAN | 247    | 961    | 1,271  | 1,254  | 1,075  | 955    | 851    | 607    | 319    | 99.0   | 58.4   | 85.2   |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MAX  | 786    | 2,224  | 2,897  | 2,450  | 2,441  | 2,018  | 1,600  | 1,147  | 817    | 336    | 240    | 268    |
| (WY) | (1998) | (1974) | (1974) | (1970) | (1982) | (1972) | (1993) | (1999) | (1984) | (1983) | (1968) | (1971) |
| MIN  | 20.8   | 57.6   | 110    | 157    | 208    | 204    | 382    | 182    | 63.1   | 36.8   | 20.9   | 27.8   |
| (WY) | (1988) | (1994) | (1977) | (1977) | (1977) | (1992) | (1968) | (1992) | (1992) | (1992) | (1992) | (2002) |

WILLAMETTE RIVER BASIN

14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1964 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 219,463                |        | 168,902             |        |                         |              |
| ANNUAL MEAN              | 600                    |        | 463                 |        | 647                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 1,113                   | 1974         |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 311                     | 1977         |
| HIGHEST DAILY MEAN       | 6,070                  | Jan 29 | 5,490               | Mar 27 | 16,000                  | Feb 7, 1996  |
| LOWEST DAILY MEAN        | 32                     | Aug 20 | 32                  | Sep 28 | 14                      | Aug 19, 1973 |
| ANNUAL SEVEN-DAY MINIMUM | 34                     | Aug 15 | 33                  | Sep 23 | 14                      | Aug 17, 1973 |
| ANNUAL RUNOFF (AC-FT)    | 435,300                |        | 335,000             |        | 468,800                 |              |
| ANNUAL RUNOFF (CFSM)     | 6.04                   |        | 4.66                |        | 6.52                    |              |
| ANNUAL RUNOFF (INCHES)   | 82.30                  |        | 63.34               |        | 88.62                   |              |
| 10 PERCENT EXCEEDS       | 1,370                  |        | 1,080               |        | 1,500                   |              |
| 50 PERCENT EXCEEDS       | 377                    |        | 293                 |        | 362                     |              |
| 90 PERCENT EXCEEDS       | 62                     |        | 45                  |        | 39                      |              |



2005 Water Year  
SANTIAM RIVER BASIN

14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR

Latitude: 44° 32' 25"

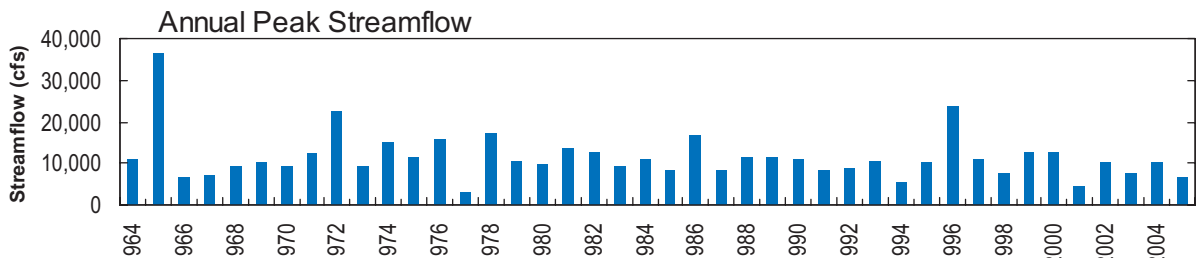
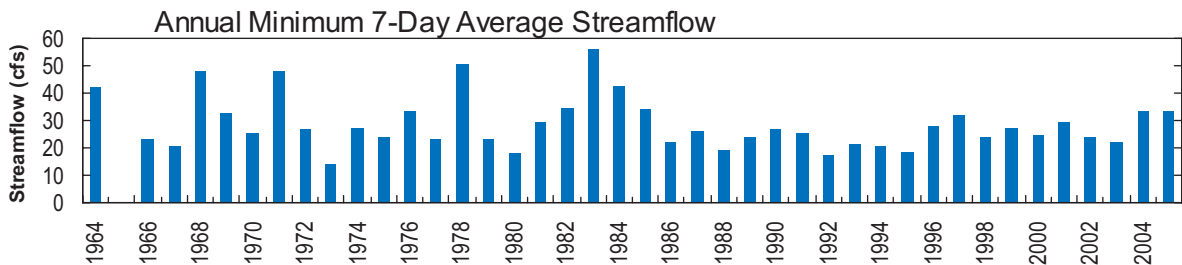
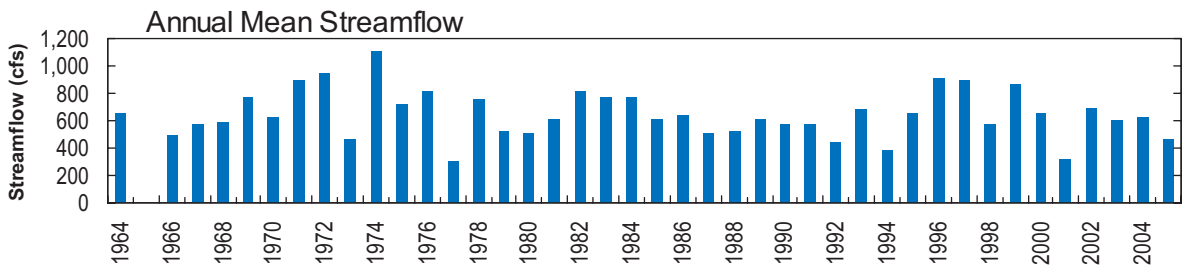
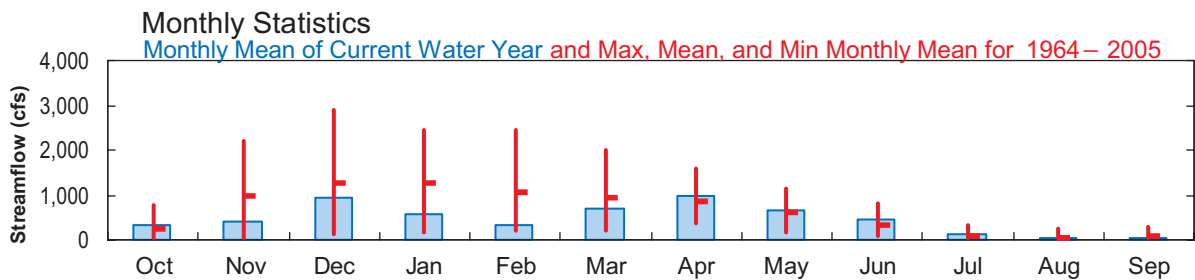
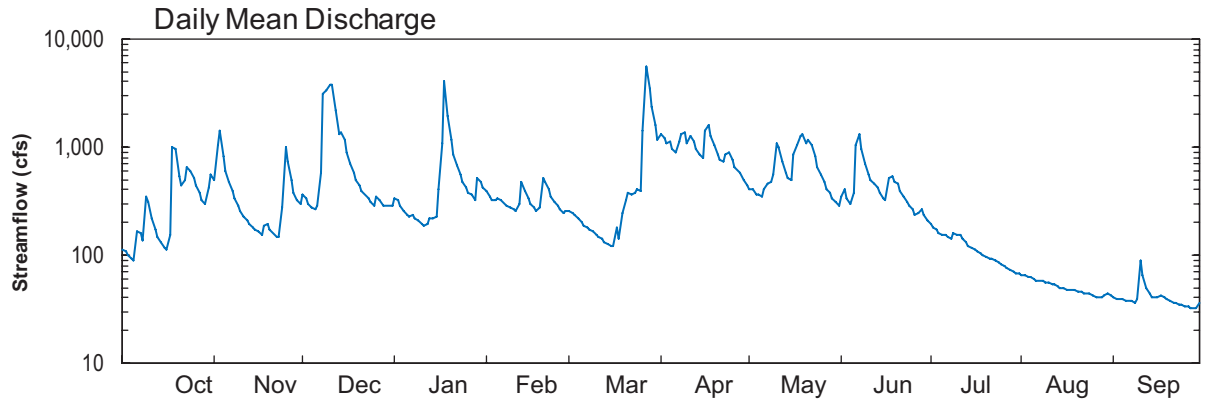
Longitude: 122° 26' 05"

Hydrologic Unit Code: 17090006

Linn County

Datum: 1050.00 feet

Drainage Area: 99.2 mi<sup>2</sup>





## WILLAMETTE RIVER BASIN

## 14187000 WILEY CREEK NEAR FOSTER, OR

LOCATION.--Lat 44°22'20", long 122°37'20", in NE ¼ NE ¼ 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, July 1988 to current year.

REVISED RECORDS.--WDR OR-90-2: 1989 (M), WDR OR-93-1: 1992.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 716.08 ft above NGVD of 1929, from topographic map. Prior to April 6, 1965, water-stage recorder at present site at datum 718.08 ft above NGVD of 1929 (Corps of Engineers bench mark). Apr. 6, 1965 to July 1973, water-stage recorder at present site at datum 2.00 ft lower than previous datum.

REMARKS.--Records good except for estimated daily discharges and those below 20 ft<sup>3</sup>/s, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--42 years (water years 1948-72, 1989-2005), 211 ft<sup>3</sup>/s, 55.31 in/yr, 152,800 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, datum then in use, from rating curve extended above 3,700 ft<sup>3</sup>/s; maximum gage height, 9.80 ft, Dec. 21, 1964 (backwater from debris), datum then in use; minimum discharge, 2.9 ft<sup>3</sup>/s August 28-31, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft<sup>3</sup>/s and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Mar. 27 | 1500 | *1,820                            | *5.25               |      |      |                                   |                     |

Minimum discharge, 6.5 ft<sup>3</sup>/s, Sept. 29, 30, gage height, 1.24 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT   | NOV   | DEC    | JAN   | FEB   | MAR    | APR    | MAY    | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|--------|-------|-------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 19    | 74    | 105    | 115   | 63    | 64     | 386    | 114    | 126   | 68    | 17    | 9.3   |
| 2     | 18    | 157   | 101    | 105   | 60    | 60     | 332    | 114    | 122   | 62    | 17    | 8.9   |
| 3     | 17    | 280   | 91     | 93    | 56    | 57     | 323    | 100    | 107   | 58    | 16    | 8.8   |
| 4     | 16    | 166   | 83     | 84    | 59    | 53     | 346    | 109    | 96    | 53    | 15    | 8.8   |
| 5     | 15    | 126   | 83     | 76    | 62    | 51     | 300    | 107    | 105   | 50    | 15    | 8.5   |
| 6     | 25    | 102   | 106    | 73    | 61    | 48     | 253    | 154    | 146   | 51    | 14    | 8.2   |
| 7     | 27    | 85    | 263    | 78    | e75   | 46     | 306    | 165    | 497   | 50    | 14    | 8.0   |
| 8     | 28    | 74    | 902    | 77    | e67   | 44     | 435    | 177    | 408   | 47    | 13    | 7.9   |
| 9     | 87    | 65    | 1,210  | 72    | 63    | 42     | 550    | 262    | 266   | 50    | 13    | 7.9   |
| 10    | 60    | 59    | 884    | 68    | 59    | 41     | 437    | 684    | 202   | 54    | 13    | 12    |
| 11    | 42    | 54    | 756    | 66    | 57    | 39     | 460    | 603    | 202   | 50    | 13    | 13    |
| 12    | 33    | 50    | 614    | 63    | 68    | 38     | 394    | 426    | 176   | 44    | 12    | 10    |
| 13    | 29    | 47    | 432    | 67    | 160   | 36     | 336    | 311    | 156   | 40    | 12    | 9.4   |
| 14    | 25    | 44    | 396    | 65    | 123   | 35     | 305    | 254    | 141   | 38    | 12    | 8.8   |
| 15    | 23    | 43    | 312    | 74    | 101   | 34     | 262    | 239    | 126   | 35    | 11    | 8.5   |
| 16    | 22    | 47    | 247    | 101   | 87    | 35     | 304    | 344    | 124   | 33    | 11    | 8.7   |
| 17    | 38    | 41    | 200    | 126   | 78    | 62     | 355    | 361    | 162   | 32    | 11    | 9.2   |
| 18    | 101   | 66    | 167    | 258   | 72    | 47     | 350    | 420    | 160   | 29    | 12    | 9.1   |
| 19    | 98    | 68    | 147    | 217   | 77    | 56     | 307    | 404    | 164   | 28    | 11    | 8.5   |
| 20    | 80    | 57    | 131    | 169   | 151   | 72     | 255    | 409    | 153   | 26    | 11    | 8.0   |
| 21    | 79    | 51    | 117    | 138   | 132   | 90     | 212    | 441    | 132   | 25    | 10    | 7.8   |
| 22    | 101   | 47    | 108    | 118   | 113   | 92     | 185    | 381    | 120   | 26    | 10    | 7.6   |
| 23    | 132   | 44    | 98     | 103   | 98    | 135    | 229    | 296    | 107   | 25    | 10    | 7.4   |
| 24    | 114   | 62    | 91     | 92    | 86    | 209    | 248    | 238    | 96    | 23    | 9.9   | 7.3   |
| 25    | 96    | 141   | 86     | 84    | 78    | 187    | 207    | 200    | 87    | 22    | 9.5   | 7.3   |
| 26    | 96    | 140   | 112    | 79    | 73    | 233    | 179    | 170    | 81    | 21    | 8.8   | 7.0   |
| 27    | 79    | 112   | 96     | 75    | 68    | 1,290  | 158    | 149    | 85    | 20    | 8.5   | 6.8   |
| 28    | 68    | 95    | 87     | 71    | 69    | 1,180  | 140    | 136    | 103   | 19    | 8.2   | 6.8   |
| 29    | 63    | 82    | 88     | 88    | ---   | 947    | 126    | 134    | 84    | 18    | 9.3   | 6.6   |
| 30    | 77    | 82    | 87     | 75    | ---   | 654    | 115    | 117    | 74    | 17    | 11    | 9.1   |
| 31    | 83    | ---   | 88     | 68    | ---   | 454    | ---    | 111    | ---   | 17    | 9.9   | ---   |
| TOTAL | 1,791 | 2,561 | 8,288  | 3,038 | 2,316 | 6,431  | 8,795  | 8,130  | 4,608 | 1,131 | 368.1 | 255.2 |
| MEAN  | 57.8  | 85.4  | 267    | 98.0  | 82.7  | 207    | 293    | 262    | 154   | 36.5  | 11.9  | 8.51  |
| MAX   | 132   | 280   | 1,210  | 258   | 160   | 1,290  | 550    | 684    | 497   | 68    | 17    | 13    |
| MIN   | 15    | 41    | 83     | 63    | 56    | 34     | 115    | 100    | 74    | 17    | 8.2   | 6.6   |
| AC-FT | 3,550 | 5,080 | 16,440 | 6,030 | 4,590 | 12,760 | 17,440 | 16,130 | 9,140 | 2,240 | 730   | 506   |
| CFSM  | 1.12  | 1.65  | 5.16   | 1.89  | 1.60  | 4.00   | 5.66   | 5.06   | 2.97  | 0.70  | 0.23  | 0.16  |
| IN.   | 1.29  | 1.84  | 5.95   | 2.18  | 1.66  | 4.62   | 6.32   | 5.84   | 3.31  | 0.81  | 0.26  | 0.18  |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2005, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 75.4   | 259    | 410    | 441    | 381    | 338    | 269    | 189    | 87.4   | 30.6   | 15.8   | 17.5   |
| MAX  | 397    | 620    | 1,107  | 842    | 944    | 625    | 490    | 353    | 286    | 75.9   | 53.4   | 67.8   |
| (WY) | (1951) | (1951) | (1965) | (1953) | (1961) | (1972) | (1955) | (1963) | (1993) | (1969) | (1968) | (1968) |
| MIN  | 6.01   | 15.7   | 109    | 82.1   | 82.7   | 85.0   | 133    | 62.8   | 20.2   | 9.89   | 4.40   | 5.15   |
| (WY) | (2003) | (1953) | (1960) | (1963) | (2005) | (1992) | (1968) | (1973) | (1992) | (2003) | (1992) | (1992) |

WILLAMETTE RIVER BASIN

14187000 WILEY CREEK NEAR FOSTER, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1948 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 59,600.1               |        | 47,712.3            |        | 211                     |              |
| ANNUAL MEAN              | 163                    |        | 131                 |        | 318                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 80.3                    |              |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 2001                    |              |
| HIGHEST DAILY MEAN       | 1,420                  | Jan 29 | 1,290               | Mar 27 | 6,410                   | Dec 22, 1964 |
| LOWEST DAILY MEAN        | 6.2                    | Aug 21 | 6.6                 | Sep 29 | 2.9                     | Aug 28, 1992 |
| ANNUAL SEVEN-DAY MINIMUM | 6.7                    | Aug 15 | 7.0                 | Sep 23 | 3.0                     | Aug 26, 1992 |
| ANNUAL RUNOFF (AC-FT)    | 118,200                |        | 94,640              |        | 152,800                 |              |
| ANNUAL RUNOFF (CFSM)     | 3.14                   |        | 2.52                |        | 4.07                    |              |
| ANNUAL RUNOFF (INCHES)   | 42.80                  |        | 34.26               |        | 55.31                   |              |
| 10 PERCENT EXCEEDS       | 454                    |        | 316                 |        | 498                     |              |
| 50 PERCENT EXCEEDS       | 86                     |        | 78                  |        | 113                     |              |
| 90 PERCENT EXCEEDS       | 13                     |        | 10                  |        | 11                      |              |

e Estimated



2005 Water Year  
SANTIAM RIVER BASIN

**14187000 WILEY CREEK NEAR FOSTER, OR**

Latitude: 44° 22' 20"

Longitude: 122° 37' 20"

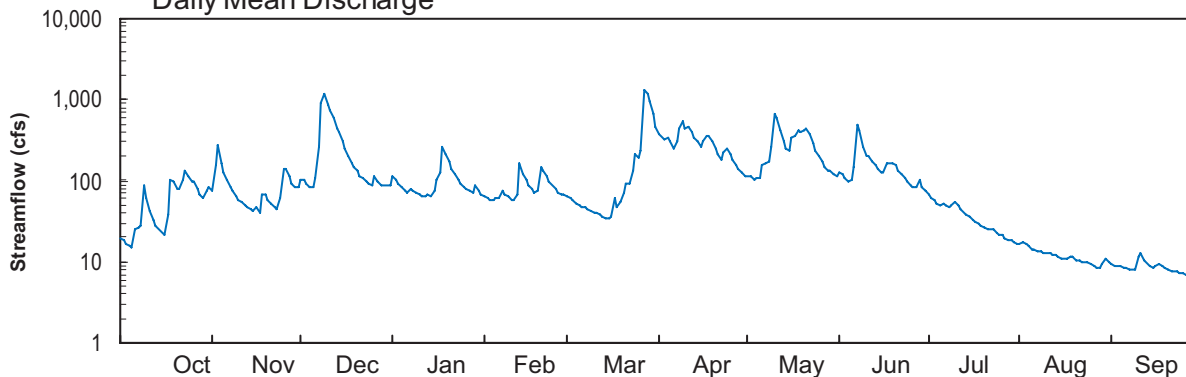
Hydrologic Unit Code: 17090006

Linn County

Datum: 716.08 feet

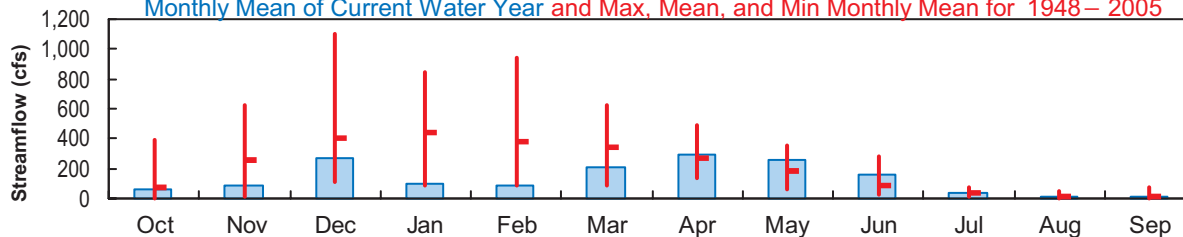
Drainage Area: 51.8 mi<sup>2</sup>

**Daily Mean Discharge**

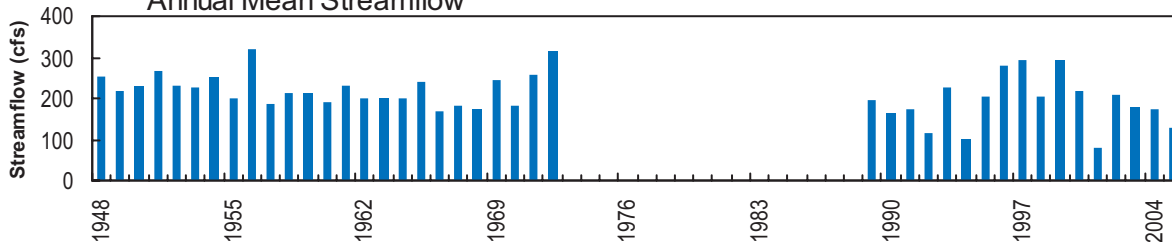


**Monthly Statistics**

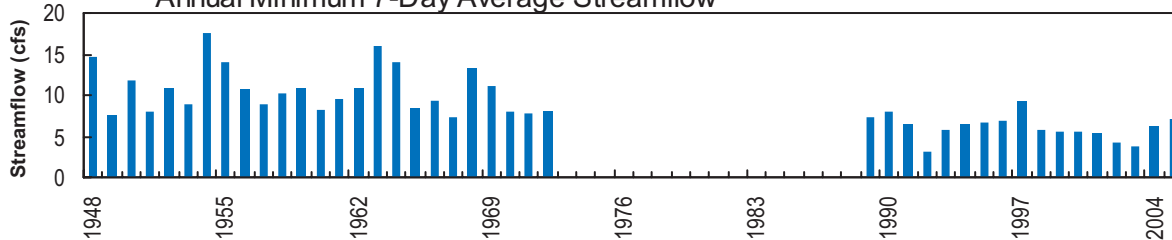
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1948–2005



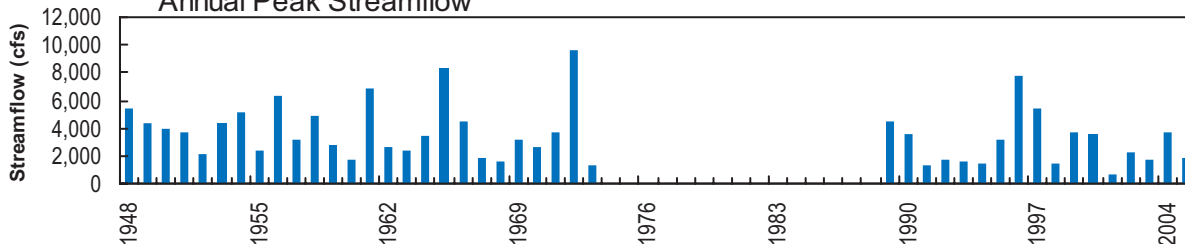
**Annual Mean Streamflow**



**Annual Minimum 7-Day Average Streamflow**



**Annual Peak Streamflow**



## WILLAMETTE RIVER BASIN

## 14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR

LOCATION.--Lat 44°24'45", long 122°41'15", in SE ¼ NE ¼ sec.28, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, on left bank 0.6 mi downstream from Wiley Creek and at mile 37.0.

DRAINAGE AREA.--557 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1973 to current year. Records for October 1966 to July 1973 (published as South Santiam River at Foster, station 14186700) at site 0.5 mi upstream not equivalent owing to inflow between sites.

GAGE.--Water-stage recorder. Elevation of gage is 530 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good. Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). No diversion upstream from station.

AVERAGE DISCHARGE.--32 years (water years 1974-2005), 2,812 ft<sup>3</sup>/s, 68.56 in/yr, 2,037,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft<sup>3</sup>/s Feb. 7, 1996, gage height, 18.74 ft, from rating curve extended above 16,000 ft<sup>3</sup>/s; minimum discharge, 343 ft<sup>3</sup>/s July 18, 2001, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft<sup>3</sup>/s Dec. 9, 10, gage height, 14.97 ft and 14.96 ft respectively; minimum discharge, 427 ft<sup>3</sup>/s Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY    | OCT     | NOV     | DEC     | JAN     | FEB    | MAR     | APR     | MAY     | JUN     | JUL    | AUG    | SEP    |
|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|--------|--------|
| 1      | 1,450   | 4,050   | e3,250  | 2,950   | 924    | 936     | 2,830   | 3,370   | 1,790   | 1,180  | 826    | 925    |
| 2      | 1,450   | 4,170   | 3,290   | 2,640   | 918    | 929     | 3,300   | 3,420   | 1,900   | 1,180  | 825    | 1,080  |
| 3      | 1,450   | 4,520   | 2,090   | 2,230   | 916    | 921     | 3,290   | 3,320   | 1,510   | 1,180  | 821    | 1,120  |
| 4      | 1,420   | 3,780   | 2,140   | 1,310   | 918    | 914     | 3,300   | 3,670   | 1,890   | 1,170  | 816    | 1,120  |
| 5      | 1,460   | 3,490   | 2,280   | 1,240   | 924    | 761     | 2,760   | 4,060   | 2,650   | 1,170  | 811    | 1,110  |
| 6      | 1,460   | 3,440   | 2,790   | 1,230   | 923    | 691     | 2,700   | 3,950   | 2,930   | 1,170  | 812    | 1,280  |
| 7      | 1,470   | 3,450   | 3,410   | 1,230   | 953    | 686     | 2,770   | 3,490   | 3,390   | 1,160  | 809    | 1,460  |
| 8      | 1,470   | 3,460   | 4,620   | 1,230   | 923    | 680     | 2,900   | 3,550   | 2,640   | 1,150  | 810    | 1,450  |
| 9      | 1,560   | 3,440   | 10,300  | 1,230   | 891    | 674     | 2,700   | 3,550   | 2,630   | 948    | 814    | 1,450  |
| 10     | 1,510   | 3,450   | 10,900  | 1,230   | 886    | 673     | 2,590   | 4,090   | 2,070   | 869    | 811    | 1,460  |
| 11     | 1,450   | 3,520   | 10,500  | 1,230   | 882    | 672     | 2,640   | 3,610   | 2,420   | 860    | 812    | 1,450  |
| 12     | 1,430   | 3,170   | 8,470   | 1,220   | 889    | 670     | 2,890   | 2,490   | 2,950   | 999    | 811    | 1,460  |
| 13     | 1,420   | 2,560   | 7,090   | 1,200   | 1,080  | 666     | 2,500   | 1,890   | 1,730   | 843    | 813    | 1,450  |
| 14     | 1,400   | 2,550   | 6,840   | 1,100   | 1,040  | 661     | 2,430   | 1,940   | 1,560   | 839    | 811    | 1,440  |
| 15     | 1,390   | 2,700   | 6,840   | 1,100   | 967    | 657     | 2,120   | 1,770   | 1,450   | 829    | 808    | 1,460  |
| 16     | 1,410   | 2,030   | 5,160   | 1,140   | 934    | 660     | 2,220   | 2,230   | 1,260   | 828    | 812    | 1,460  |
| 17     | 1,420   | 1,960   | 4,880   | 1,160   | 913    | 698     | 2,900   | 2,480   | 2,090   | 829    | 811    | 1,460  |
| 18     | 1,510   | 1,710   | 4,430   | 1,890   | 912    | 683     | 2,850   | 1,530   | 2,240   | 817    | 811    | 1,470  |
| 19     | 1,550   | 1,710   | 4,360   | 3,140   | 921    | 684     | 2,490   | 1,560   | 2,070   | 817    | 815    | 1,470  |
| 20     | 1,610   | 1,690   | 4,360   | 2,190   | 1,030  | 699     | 2,740   | 1,540   | 1,820   | 818    | 814    | 1,460  |
| 21     | 2,180   | 1,680   | 4,420   | 2,020   | 1,020  | 733     | 2,400   | 2,780   | 1,750   | 827    | 810    | 1,450  |
| 22     | 2,750   | 1,680   | 4,450   | 2,070   | 990    | 733     | 2,440   | 3,630   | 1,750   | 827    | 812    | 1,460  |
| 23     | 3,190   | 1,680   | 4,430   | 2,080   | 975    | 791     | 3,390   | 3,520   | 1,740   | 826    | 811    | 1,460  |
| 24     | 3,140   | 1,720   | 4,200   | 2,030   | 955    | 915     | 3,460   | 3,660   | 1,240   | 826    | e812   | 1,460  |
| 25     | 2,750   | 2,300   | 4,250   | 1,500   | 945    | 919     | 3,380   | 2,920   | 1,210   | 824    | e806   | 1,460  |
| 26     | 3,330   | 2,530   | 4,310   | 1,430   | 935    | 919     | 3,280   | 2,690   | 1,200   | 816    | 816    | 1,460  |
| 27     | 3,320   | 2,500   | 4,270   | 1,220   | 924    | 3,030   | 3,240   | 2,490   | 1,210   | 822    | 819    | 1,460  |
| 28     | 3,310   | 2,440   | 3,420   | 987     | 930    | 3,970   | 2,710   | 2,030   | 1,260   | 810    | 818    | 1,460  |
| 29     | 3,340   | 2,420   | 3,390   | 948     | ---    | 4,410   | 2,980   | 1,960   | 1,210   | 818    | 819    | 1,470  |
| 30     | 3,760   | e2,900  | 3,390   | 931     | ---    | 3,070   | 3,330   | 1,970   | 1,180   | 823    | 819    | 1,470  |
| 31     | 4,080   | ---     | 2,930   | 934     | ---    | 2,930   | ---     | 1,950   | ---     | 828    | 815    | ---    |
| TOTAL  | 64,440  | 82,700  | 151,460 | 48,040  | 26,418 | 37,035  | 85,530  | 87,110  | 56,740  | 28,703 | 25,230 | 41,645 |
| MEAN   | 2,079   | 2,757   | 4,886   | 1,550   | 944    | 1,195   | 2,851   | 2,810   | 1,891   | 926    | 814    | 1,388  |
| MAX    | 4,080   | 4,520   | 10,900  | 3,140   | 1,080  | 4,410   | 3,460   | 4,090   | 3,390   | 1,180  | 826    | 1,470  |
| MIN    | 1,390   | 1,680   | 2,090   | 931     | 882    | 657     | 2,120   | 1,530   | 1,180   | 810    | 806    | 925    |
| AC-FT  | 127,800 | 164,000 | 300,400 | 95,290  | 52,400 | 73,460  | 169,600 | 172,800 | 112,500 | 56,930 | 50,040 | 82,600 |
| MEAN†  | 1,292   | 1,820   | 4,224   | 2,055   | 1,433  | 2,818   | 4,067   | 3,331   | 1,895   | 549    | 208    | 213    |
| CFSM†  | 2.32    | 3.27    | 7.58    | 3.69    | 2.57   | 5.06    | 7.30    | 5.98    | 3.40    | 0.98   | 0.37   | 0.38   |
| IN.†   | 2.67    | 3.65    | 8.74    | 4.26    | 2.68   | 5.84    | 8.15    | 6.90    | 3.80    | 1.14   | 0.43   | 0.43   |
| AC-FT† | 79,420  | 108,300 | 259,700 | 126,400 | 79,580 | 173,300 | 242,000 | 204,800 | 112,800 | 33,740 | 12,810 | 12,690 |

CAL YR 2004 TOTAL 967,302 MEAN 2,643 MAX 11,700 MIN 630 AC-FT 1,919,000 MEAN† 2,649 CFSM† 4.76 IN.† 64.74 AC-FT† 1,923,000  
WTR YR 2005 TOTAL 735,051 MEAN 2,014 MAX 10,900 MIN 657 AC-FT 1,458,000 MEAN† 1,997 CFSM† 3.58 IN.† 48.68 AC-FT† 1,446,000

† Adjusted for change in contents, in Green Peter Lake and Foster Lake. Data provided by U.S. Army Corps of Engineers.

e Estimated



2005 Water Year  
SANTIAM RIVER BASIN

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR

Latitude: 44° 24' 45"

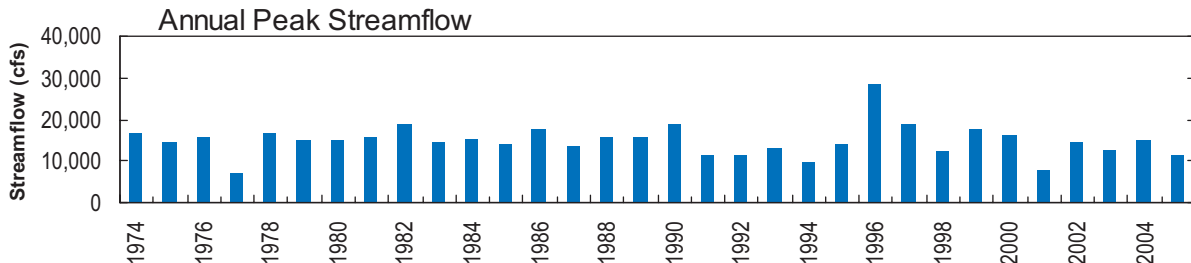
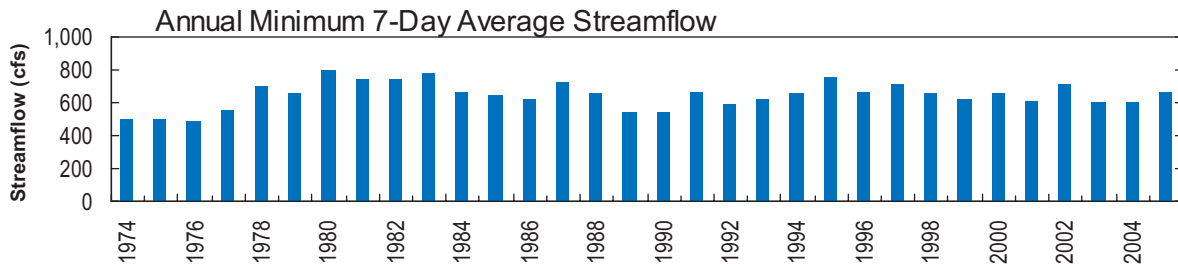
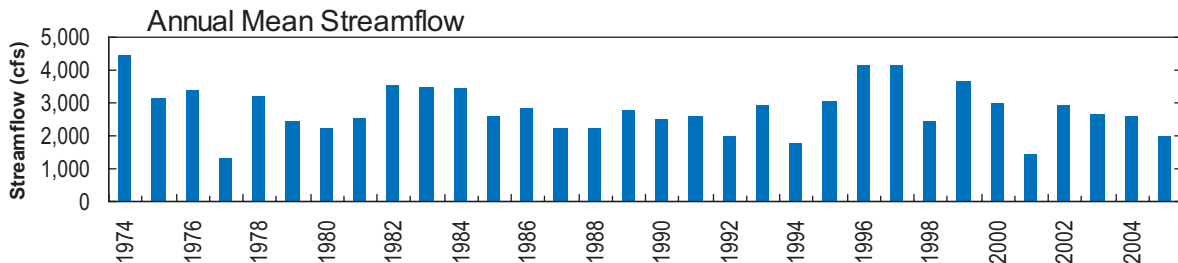
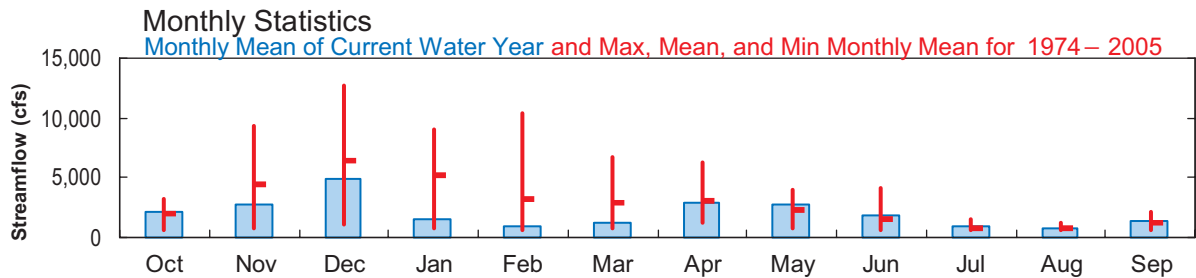
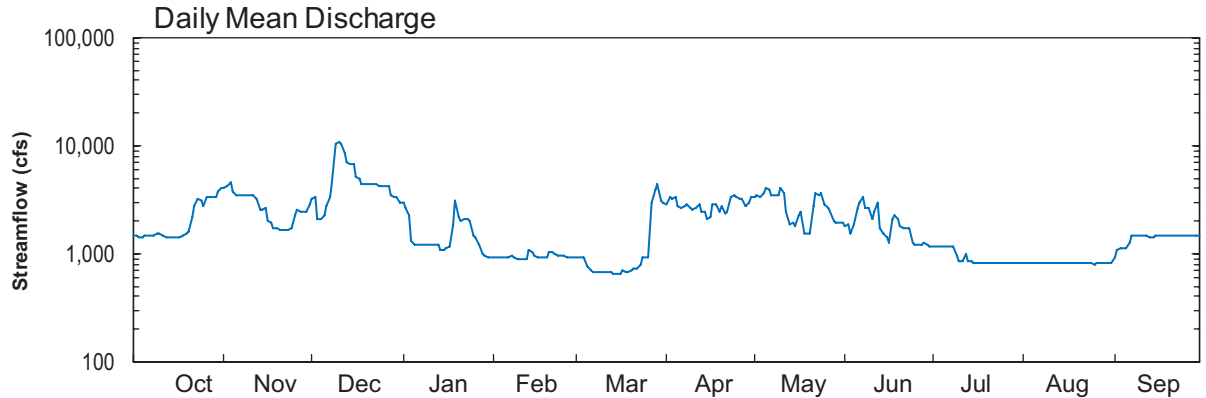
Longitude: 122° 41' 15"

Hydrologic Unit Code: 17090006

Linn County

Datum: 530.00 feet

Drainage Area: 557 mi<sup>2</sup>



## WILLAMETTE RIVER BASIN

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR—Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1973 to September 1997, August 2001 to current year.

INSTRUMENTATION.--Temperature probe and data logger.

REMARKS.--Records good.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 15.5°C at times in 1975, 1978, 1981, 1987, 1990, 1993; minimum, 2.5° Dec. 30, 31, 1978, Feb. 1, 1980, Feb. 7, 1985.

## EXTREMES FOR CURENT YEAR.--

WATER TEMPERATURE: Maximum, 13.5°C Oct. 8, but may have been higher during period of missing record; minimum, 5.1°C Feb. 15-17.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 13.1    | 12.3 | 12.6 | 11.3     | 11.1 | 11.2 | ---      | --- | ---  | 7.5     | 7.1 | 7.3  |
| 2     | 13.2    | 12.4 | 12.7 | 11.3     | 10.5 | 11.0 | 9.1      | 8.7 | 8.9  | ---     | --- | ---  |
| 3     | 12.9    | 12.4 | 12.7 | 10.9     | 10.2 | 10.5 | 8.8      | 8.6 | 8.7  | ---     | --- | ---  |
| 4     | 13.1    | 12.4 | 12.7 | 10.7     | 10.1 | 10.3 | 8.6      | 8.4 | 8.6  | 6.5     | 6.0 | 6.2  |
| 5     | 13.0    | 12.4 | 12.8 | 10.5     | 10.0 | 10.2 | 8.8      | 8.6 | 8.7  | 6.3     | 5.8 | 6.1  |
| 6     | 13.1    | 12.5 | 12.8 | 10.4     | 10.0 | 10.2 | 8.6      | 8.3 | 8.5  | 6.4     | 6.1 | 6.3  |
| 7     | 13.1    | 12.5 | 12.8 | 10.6     | 10.2 | 10.3 | 8.8      | 8.1 | 8.3  | 6.3     | 6.2 | 6.3  |
| 8     | 13.5    | 12.4 | 13.0 | 10.8     | 10.3 | 10.6 | 8.3      | 8.1 | 8.2  | 6.2     | 6.0 | 6.1  |
| 9     | 13.1    | 12.6 | 12.9 | 11.0     | 10.4 | 10.8 | 8.8      | 8.2 | 8.6  | 6.2     | 5.9 | 6.0  |
| 10    | 13.4    | 12.3 | 12.7 | 11.2     | 10.7 | 11.0 | 8.9      | 8.6 | 8.8  | 6.1     | 5.8 | 5.9  |
| 11    | 13.4    | 12.5 | 12.8 | 11.4     | 11.1 | 11.3 | 9.0      | 8.7 | 8.9  | 5.9     | 5.7 | 5.8  |
| 12    | 13.1    | 12.6 | 12.8 | 11.4     | 11.1 | 11.2 | 8.9      | 8.6 | 8.7  | 6.0     | 5.7 | 5.9  |
| 13    | 13.1    | 12.5 | 12.8 | 11.4     | 11.1 | 11.3 | 9.1      | 8.6 | 8.8  | 6.2     | 5.8 | 6.0  |
| 14    | 13.1    | 12.5 | 12.8 | 11.4     | 11.1 | 11.2 | 9.1      | 8.7 | 9.0  | 5.9     | 5.5 | 5.8  |
| 15    | 13.0    | 12.2 | 12.6 | 11.1     | 10.9 | 11.0 | 8.7      | 8.2 | 8.4  | 5.9     | 5.5 | 5.7  |
| 16    | 13.0    | 12.4 | 12.7 | 11.1     | 10.8 | 11.0 | 8.4      | 8.0 | 8.2  | 6.2     | 5.5 | 5.8  |
| 17    | 12.9    | 12.2 | 12.6 | 11.1     | 10.8 | 10.9 | 8.5      | 8.1 | 8.3  | 6.6     | 6.0 | 6.2  |
| 18    | 12.6    | 12.2 | 12.4 | 10.9     | 10.5 | 10.7 | 8.5      | 8.1 | 8.3  | 7.5     | 6.6 | 7.0  |
| 19    | 12.8    | 11.9 | 12.4 | 10.8     | 10.3 | 10.5 | 8.4      | 8.0 | 8.2  | 7.2     | 6.6 | 6.9  |
| 20    | 12.6    | 12.0 | 12.3 | 10.3     | 10.0 | 10.2 | 8.5      | 8.0 | 8.2  | 7.4     | 6.8 | 7.1  |
| 21    | 12.5    | 12.0 | 12.3 | 10.0     | 9.6  | 9.8  | 8.0      | 7.7 | 7.8  | 7.2     | 6.5 | 6.8  |
| 22    | 12.4    | 11.8 | 12.1 | 10.0     | 9.6  | 9.8  | 8.2      | 7.8 | 8.0  | 7.1     | 6.6 | 6.8  |
| 23    | 12.0    | 11.6 | 11.8 | 10.4     | 9.8  | 10.1 | 8.3      | 7.9 | 8.0  | 7.1     | 6.8 | 6.9  |
| 24    | 11.9    | 11.3 | 11.7 | 10.6     | 10.3 | 10.4 | 8.0      | 7.8 | 7.9  | 7.0     | 6.5 | 6.7  |
| 25    | 11.5    | 11.0 | 11.3 | 10.3     | 9.8  | 10.2 | 7.8      | 7.5 | 7.7  | 6.8     | 6.5 | 6.7  |
| 26    | 11.8    | 11.2 | 11.4 | 10.0     | 9.6  | 9.8  | 7.9      | 7.6 | 7.8  | 7.1     | 6.7 | 6.9  |
| 27    | 11.8    | 11.3 | 11.5 | 9.8      | 9.4  | 9.6  | 8.1      | 7.6 | 7.8  | 7.4     | 6.9 | 7.1  |
| 28    | 12.4    | 11.4 | 11.8 | 9.5      | 9.1  | 9.3  | 8.3      | 7.6 | 7.9  | 7.5     | 6.9 | 7.2  |
| 29    | 12.0    | 11.3 | 11.7 | 9.2      | 8.9  | 9.0  | 7.9      | 7.6 | 7.8  | 7.4     | 6.9 | 7.1  |
| 30    | 11.6    | 11.0 | 11.3 | ---      | ---  | ---  | 7.8      | 7.5 | 7.7  | 7.3     | 6.5 | 6.8  |
| 31    | 11.7    | 11.1 | 11.3 | ---      | ---  | ---  | 7.6      | 7.2 | 7.5  | 7.2     | 6.6 | 6.9  |
| MONTH | 13.5    | 11.0 | 12.3 | 11.4     | 8.9  | 10.5 | 9.1      | 7.2 | 8.3  | 7.5     | 5.5 | 6.5  |

## WILLAMETTE RIVER BASIN

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

| DAY      | MAX  | MIN | MEAN  | MAX  | MIN | MEAN   | MAX  | MIN | MEAN      | MAX  | MIN | MEAN |
|----------|------|-----|-------|------|-----|--------|------|-----|-----------|------|-----|------|
| FEBRUARY |      |     | MARCH |      |     | APRIL  |      |     | MAY       |      |     |      |
| 1        | 7.0  | 6.4 | 6.7   | 8.0  | 7.1 | 7.5    | 8.3  | 7.7 | 8.0       | 10.5 | 8.7 | 10   |
| 2        | 6.8  | 6.3 | 6.5   | 7.9  | 7.1 | 7.4    | 8.4  | 7.3 | 7.8       | 10.3 | 9.0 | 9.7  |
| 3        | 6.8  | 6.2 | 6.4   | 8.0  | 7.2 | 7.5    | 8.0  | 7.7 | 7.8       | 10.3 | 8.8 | 9.8  |
| 4        | ---  | --- | ---   | 8.1  | 7.2 | 7.6    | 8.1  | 7.3 | 7.7       | 11.1 | 8.9 | 10.1 |
| 5        | 6.9  | 6.4 | 6.6   | 8.4  | 7.2 | 7.7    | 8.7  | 7.4 | 8.1       | ---  | --- | ---  |
| 6        | 6.5  | 6.2 | 6.4   | 8.7  | 7.3 | 7.9    | 9.1  | 8.0 | 8.5       | ---  | --- | ---  |
| 7        | 6.8  | 5.9 | 6.3   | 9.1  | 7.6 | 8.1    | 8.4  | 7.9 | 8.1       | ---  | --- | ---  |
| 8        | ---  | --- | ---   | 9.4  | 7.8 | 8.5    | 8.8  | 7.5 | 8.1       | ---  | --- | ---  |
| 9        | 6.3  | 5.8 | 6.0   | 9.8  | 8.1 | 8.7    | 8.7  | 7.8 | 8.2       | ---  | --- | ---  |
| 10       | ---  | --- | ---   | 9.8  | 8.1 | 8.8    | 8.8  | 7.3 | 8.1       | ---  | --- | ---  |
| 11       | 6.2  | 5.5 | 5.8   | 9.9  | 8.1 | 8.8    | 8.9  | 8.0 | 8.4       | ---  | --- | ---  |
| 12       | 6.2  | 5.8 | 6.0   | 9.8  | 8.1 | 8.7    | 8.4  | 7.6 | 8.0       | ---  | --- | ---  |
| 13       | 6.4  | 5.8 | 6.1   | 10.0 | 8.2 | 8.8    | 8.8  | 7.3 | 7.9       | ---  | --- | ---  |
| 14       | ---  | --- | ---   | 10.2 | 8.4 | 9.1    | 8.9  | 7.4 | 8.0       | ---  | --- | ---  |
| 15       | 5.9  | 5.1 | 5.5   | 10.2 | 8.4 | 9.1    | 8.9  | 7.6 | 8.3       | ---  | --- | ---  |
| 16       | 6.1  | 5.1 | 5.5   | 9.5  | 7.9 | 8.8    | 8.8  | 8.1 | 8.6       | ---  | --- | ---  |
| 17       | 6.0  | 5.1 | 5.5   | 9.3  | 8.1 | 8.7    | 8.4  | 7.6 | 8.0       | ---  | --- | ---  |
| 18       | 6.0  | 5.2 | 5.6   | 9.5  | 8.6 | 8.9    | 8.5  | 7.5 | 7.9       | ---  | --- | ---  |
| 19       | 6.1  | 5.5 | 5.9   | 9.9  | 8.6 | 9.3    | 8.9  | 7.3 | 8.0       | ---  | --- | ---  |
| 20       | 7.0  | 6.0 | 6.4   | 9.0  | 8.4 | 8.7    | 9.6  | 7.7 | 8.6       | ---  | --- | ---  |
| 21       | 6.9  | 5.8 | 6.3   | 9.3  | 8.1 | 8.7    | 9.9  | 8.2 | 9.0       | ---  | --- | ---  |
| 22       | 6.8  | 5.7 | 6.2   | 9.2  | 8.4 | 8.8    | 10.5 | 9.0 | 9.6       | ---  | --- | ---  |
| 23       | 7.0  | 5.7 | 6.3   | 8.9  | 8.0 | 8.4    | 10.3 | 9.0 | 9.5       | ---  | --- | ---  |
| 24       | 7.0  | 5.9 | 6.4   | 8.4  | 7.5 | 7.9    | 9.7  | 8.7 | 9.1       | ---  | --- | ---  |
| 25       | 7.0  | 6.3 | 6.6   | 8.8  | 7.4 | 8.1    | 10.1 | 8.6 | 9.3       | ---  | --- | ---  |
| 26       | 7.3  | 6.5 | 6.8   | 8.7  | 8.1 | 8.4    | 9.8  | 8.6 | 9.1       | ---  | --- | ---  |
| 27       | 7.7  | 6.4 | 7.0   | 8.5  | 7.9 | 8.3    | 10.6 | 9.2 | 9.9       | ---  | --- | ---  |
| 28       | 7.8  | 7.3 | 7.5   | 8.0  | 7.3 | 7.7    | 11.0 | 9.2 | 9.9       | ---  | --- | ---  |
| 29       | ---  | --- | ---   | 8.0  | 7.0 | 7.4    | 10.5 | 9.1 | 9.8       | ---  | --- | ---  |
| 30       | ---  | --- | ---   | 7.9  | 7.0 | 7.5    | 10.5 | 8.7 | 9.7       | ---  | --- | ---  |
| 31       | ---  | --- | ---   | 9.0  | 7.0 | 8.0    | ---  | --- | ---       | ---  | --- | ---  |
| MONTH    | 7.8  | 5.1 | 6.3   | 10.2 | 7.0 | 8.3    | 11.0 | 7.3 | 8.6       | 11.1 | 8.7 | 9.9  |
| JUNE     |      |     | JULY  |      |     | AUGUST |      |     | SEPTEMBER |      |     |      |
| 1        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 2        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 3        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 4        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 5        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 6        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 7        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 8        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 9        | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 10       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 11       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 12       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 13       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 14       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 15       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 16       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 17       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 18       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 19       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 20       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 21       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 22       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 23       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 24       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 25       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 26       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 27       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 28       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 29       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 30       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| 31       | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| MONTH    | ---  | --- | ---   | ---  | --- | ---    | ---  | --- | ---       | ---  | --- | ---  |
| YEAR     | 13.5 | 5.1 | 8.8   |      |     |        |      |     |           |      |     |      |

## WILLAMETTE RIVER BASIN

## 14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR

LOCATION.--Lat 44°29'55", long 122°49'20", in SW ¼ NW ¼ 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), complete water year records July 1923 to September 2004, seasonal record October 2004 to April 2005. Monthly discharge only for some periods, published in WSP 1318. Published as South Fork of Santiam River at Waterloo 1905-07, 1910-11.

REVISED RECORDS.--WSP 1248: 1907, 1924-30, 1932.

GAGE.--Water-stage recorder. Datum of gage is 370.39 ft above NGVD 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.--Records fair. Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). Some diversion upstream from station. Continuous water-quality records for the period October 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--44 years (water years 1906, 1924-1966), 2,896 ft<sup>3</sup>/s, 2,098,000 acre-ft/yr. 38 years (water years 1967-2004), 3,001 ft<sup>3</sup>/s, 2,174,000 acre-ft/yr (regulated period).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,200 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 24.50 ft; minimum discharge, 61 ft<sup>3</sup>/s Oct. 12, 1966.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT     | NOV     | DEC     | JAN     | FEB    | MAR    | APR   | MAY | JUN | JUL | AUG | SEP |
|-------|---------|---------|---------|---------|--------|--------|-------|-----|-----|-----|-----|-----|
| 1     | 1,590   | 4,160   | 3,320   | 3,140   | 979    | 1,000  | 3,280 | --- | --- | --- | --- | --- |
| 2     | 1,600   | 4,320   | 3,390   | 2,870   | 964    | 986    | 3,620 | --- | --- | --- | --- | --- |
| 3     | 1,590   | 4,820   | 2,310   | 2,510   | 954    | 976    | 3,670 | --- | --- | --- | --- | --- |
| 4     | 1,560   | 4,030   | 2,160   | 1,580   | 955    | 964    | 3,770 | --- | --- | --- | --- | --- |
| 5     | 1,600   | 3,650   | 2,280   | 1,390   | 961    | 842    | 3,150 | --- | --- | --- | --- | --- |
| 6     | 1,660   | 3,550   | 2,830   | 1,390   | 960    | 722    | 3,040 | --- | --- | --- | --- | --- |
| 7     | e1,640  | 3,530   | 3,600   | 1,370   | 1,000  | 706    | 3,130 | --- | --- | --- | --- | --- |
| 8     | 1,660   | 3,540   | 4,800   | 1,380   | 989    | 699    | 3,430 | --- | --- | --- | --- | --- |
| 9     | 1,820   | 3,510   | 10,200  | 1,360   | 967    | 686    | 3,260 | --- | --- | --- | --- | --- |
| 10    | e1,740  | 3,510   | 11,200  | 1,350   | 960    | 684    | 3,050 | --- | --- | --- | --- | --- |
| 11    | e1,650  | 3,570   | 11,000  | 1,330   | 953    | 680    | 3,050 | --- | --- | --- | --- | --- |
| 12    | e1,550  | 3,320   | 8,990   | 1,320   | 970    | 670    | 3,350 | --- | --- | --- | --- | --- |
| 13    | e1,500  | 2,590   | 7,540   | 1,310   | 1,290  | 664    | 2,890 | --- | --- | --- | --- | --- |
| 14    | e1,450  | 2,560   | 7,060   | 1,180   | 1,230  | 658    | 2,850 | --- | --- | --- | --- | --- |
| 15    | e1,450  | 2,690   | 7,210   | 1,160   | 1,100  | 650    | 2,440 | --- | --- | --- | --- | --- |
| 16    | 1,450   | 2,120   | 5,500   | 1,210   | 1,050  | 656    | 2,590 | --- | --- | --- | --- | --- |
| 17    | 1,460   | 1,920   | 5,180   | 1,230   | 1,010  | 720    | 3,250 | --- | --- | --- | --- | --- |
| 18    | 1,550   | 1,730   | 4,710   | 1,770   | 1,000  | 693    | 3,440 | --- | --- | --- | --- | --- |
| 19    | 1,580   | 1,690   | 4,580   | 3,310   | 1,020  | 715    | 2,970 | --- | --- | --- | --- | --- |
| 20    | 1,620   | 1,640   | 4,560   | 2,470   | 1,240  | 721    | 3,110 | --- | --- | --- | --- | --- |
| 21    | 2,150   | 1,620   | 4,600   | 2,180   | 1,180  | 772    | 2,780 | --- | --- | --- | --- | --- |
| 22    | 2,730   | 1,610   | 4,630   | 2,200   | 1,120  | 763    | 2,640 | --- | --- | --- | --- | --- |
| 23    | 3,250   | 1,620   | 4,590   | 2,220   | 1,090  | 834    | 3,600 | --- | --- | --- | --- | --- |
| 24    | 3,250   | 1,710   | 4,390   | 2,190   | 1,050  | 1,010  | 3,780 | --- | --- | --- | --- | --- |
| 25    | 2,900   | 2,380   | 4,420   | 1,710   | 1,030  | 1,030  | 3,630 | --- | --- | --- | --- | --- |
| 26    | 3,380   | 2,670   | 4,480   | 1,540   | 1,010  | 1,010  | ---   | --- | --- | --- | --- | --- |
| 27    | 3,410   | 2,610   | 4,440   | 1,350   | 1,000  | 3,180  | ---   | --- | --- | --- | --- | --- |
| 28    | 3,380   | 2,500   | 3,720   | 1,120   | 995    | 4,540  | ---   | --- | --- | --- | --- | --- |
| 29    | 3,390   | 2,460   | 3,570   | 1,020   | ---    | 5,170  | ---   | --- | --- | --- | --- | --- |
| 30    | 3,800   | 2,890   | 3,580   | 999     | ---    | 3,780  | ---   | --- | --- | --- | --- | --- |
| 31    | 4,180   | ---     | 3,170   | 987     | ---    | 3,390  | ---   | --- | --- | --- | --- | --- |
| TOTAL | 67,540  | 84,520  | 158,010 | 52,146  | 29,027 | 40,571 | ---   | --- | --- | --- | --- | --- |
| MEAN  | 2,179   | 2,817   | 5,097   | 1,682   | 1,037  | 1,309  | ---   | --- | --- | --- | --- | --- |
| MAX   | 4,180   | 4,820   | 11,200  | 3,310   | 1,290  | 5,170  | ---   | --- | --- | --- | --- | --- |
| MIN   | 1,450   | 1,610   | 2,160   | 987     | 953    | 650    | ---   | --- | --- | --- | --- | --- |
| AC-FT | 134,000 | 167,600 | 313,400 | 103,400 | 57,580 | 80,470 | ---   | --- | --- | --- | --- | --- |

CAL YR2004 TOTAL 1,052,641 MEAN 2,876 MAX 12,900 MIN 601 AC-FT 2,088,000

e Estimated



WILLAMETTE RIVER BASIN

14187600 LEBANON SANTIAM CANAL NEAR LEBANON, OR

LOCATION.--Lat 44°30'54", long 122°51'49", in SW 1/4 NW 1/4 sec.19, T.12 S., R.1 W., Linn County, Hydrologic Unit 17090006, near right bank, on downstream side of bridge on Headgate Road, 2.2 mi east of Lebanon.

PERIOD OF RECORD.--May 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 370 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for the period Nov. 24 to Dec. 16, which are poor. Flow completely regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 191 ft<sup>3</sup>/s Mar. 8, 1994; minimum daily discharge, 25 ft<sup>3</sup>/s Jan. 18, 1994.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 85    | 66    | e86   | 65    | 76    | 77    | 82    | 91    | 80    | 90    | 86    | 83    |
| 2     | 85    | 65    | e86   | 64    | 75    | 76    | 83    | 92    | 82    | 90    | 88    | 74    |
| 3     | 85    | 67    | e76   | 65    | 75    | 76    | 83    | 91    | 78    | 89    | 87    | 85    |
| 4     | 84    | 67    | e66   | 68    | 75    | 76    | 84    | 89    | 82    | 88    | 86    | 87    |
| 5     | 85    | 71    | e66   | 72    | 76    | 73    | 81    | 86    | 88    | 87    | 86    | 87    |
| 6     | 85    | 70    | e67   | 73    | 76    | 69    | 80    | 86    | 91    | 89    | 86    | 91    |
| 7     | 85    | 70    | e67   | 72    | 77    | 69    | 81    | 84    | 94    | 91    | 86    | 91    |
| 8     | 85    | 70    | e62   | 72    | 76    | 75    | 80    | 85    | 85    | 93    | 84    | 86    |
| 9     | 87    | 69    | e57   | 72    | 76    | 80    | 82    | 86    | 86    | 84    | 84    | 86    |
| 10    | 86    | 70    | e50   | 72    | 76    | 80    | 95    | 83    | 95    | 85    | 85    | 88    |
| 11    | 85    | 69    | e45   | 72    | 76    | 80    | 95    | 73    | 87    | 85    | 92    | 88    |
| 12    | 85    | 69    | e42   | 71    | 76    | 80    | 95    | 81    | 92    | 98    | 92    | 86    |
| 13    | 85    | 65    | e51   | 71    | 83    | 80    | 91    | 85    | 83    | 83    | 92    | 86    |
| 14    | 84    | 64    | e59   | 65    | 82    | 79    | 93    | 83    | 85    | 86    | 92    | 88    |
| 15    | 84    | 65    | 60    | 60    | 79    | 79    | 90    | 81    | 81    | 89    | 92    | 91    |
| 16    | 85    | 68    | 68    | 60    | 78    | 79    | 92    | 82    | 72    | 86    | 92    | 91    |
| 17    | 86    | 71    | 75    | 60    | 77    | 83    | 97    | 86    | 83    | 84    | 91    | 93    |
| 18    | 84    | 69    | 73    | 71    | 77    | 81    | 99    | 77    | 81    | 89    | 91    | 93    |
| 19    | 79    | 68    | 73    | 82    | 77    | 83    | 95    | 78    | 67    | 94    | 91    | 92    |
| 20    | 79    | 68    | 72    | 69    | 82    | 83    | 95    | 76    | 71    | 92    | 91    | 92    |
| 21    | 79    | 67    | 71    | 69    | 81    | 85    | 93    | 83    | 93    | 86    | 91    | 91    |
| 22    | 75    | 67    | 71    | 69    | 80    | 82    | 91    | 88    | 92    | 83    | 91    | 91    |
| 23    | 78    | 67    | 71    | 69    | 79    | 79    | 95    | 87    | 89    | 82    | 92    | 91    |
| 24    | 77    | e67   | 71    | 69    | 78    | 79    | 92    | 91    | 85    | 82    | 92    | 91    |
| 25    | 76    | e70   | 71    | 65    | 77    | 66    | 91    | 95    | 97    | 82    | 89    | 91    |
| 26    | 78    | e71   | 71    | 70    | 77    | 56    | 89    | 91    | 97    | 76    | 92    | 91    |
| 27    | 77    | e71   | 71    | 73    | 77    | 61    | 91    | 89    | 95    | 79    | 93    | 91    |
| 28    | 77    | e72   | 68    | 71    | 77    | 69    | 88    | 85    | 99    | 84    | 93    | 91    |
| 29    | 72    | e78   | 67    | 69    | ---   | 75    | 89    | 84    | 93    | 86    | 94    | 92    |
| 30    | 67    | e86   | 67    | 68    | ---   | 69    | 91    | 83    | 90    | 87    | 94    | 94    |
| 31    | 68    | ---   | 65    | 73    | ---   | 73    | ---   | 82    | ---   | 86    | 94    | ---   |
| TOTAL | 2,512 | 2,077 | 2,065 | 2,141 | 2,171 | 2,352 | 2,683 | 2,633 | 2,593 | 2,685 | 2,789 | 2,672 |
| MEAN  | 81.0  | 69.2  | 66.6  | 69.1  | 77.5  | 75.9  | 89.4  | 84.9  | 86.4  | 86.6  | 90.0  | 89.1  |
| MAX   | 87    | 86    | 86    | 82    | 83    | 85    | 99    | 95    | 99    | 98    | 94    | 94    |
| MIN   | 67    | 64    | 42    | 60    | 75    | 56    | 80    | 73    | 67    | 76    | 84    | 74    |
| AC-FT | 4,980 | 4,120 | 4,100 | 4,250 | 4,310 | 4,670 | 5,320 | 5,220 | 5,140 | 5,330 | 5,530 | 5,300 |

CAL YR2004 TOTAL 27,713 MEAN 75.7 MAX 98 MIN 36 AC-FT 54,970  
WTR YR2005 TOTAL 29,373 MEAN 80.5 MAX 99 MIN 42 AC-FT 58,260

e Estimated



2005 Water Year  
SANTIAM RIVER BASIN

**14187600 LEBANON SANTIAM CANAL NEAR LEBANON, OR**

Latitude: 44° 30' 54"

Longitude: 122° 51' 49"

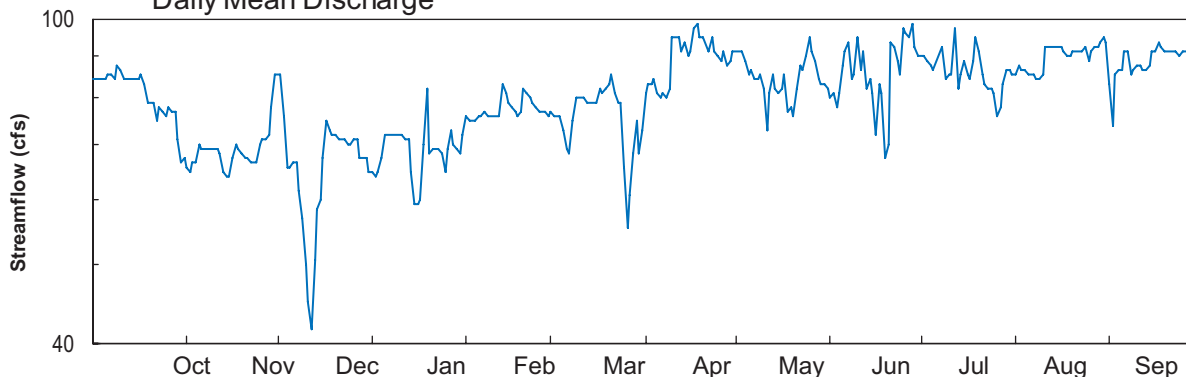
Hydrologic Unit Code: 17090006

Linn County

Datum: 370 feet

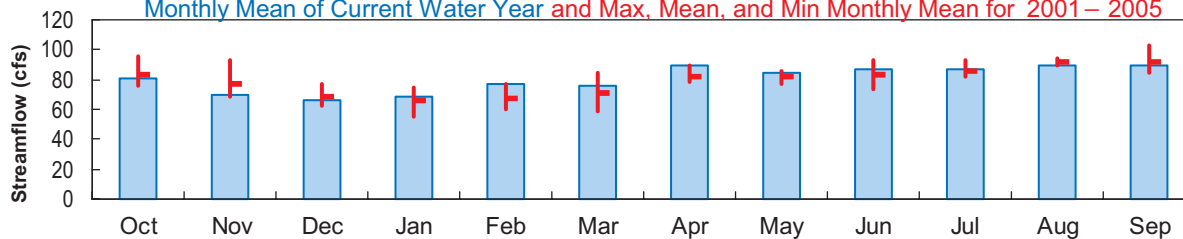
Drainage Area: mi<sup>2</sup>

**Daily Mean Discharge**

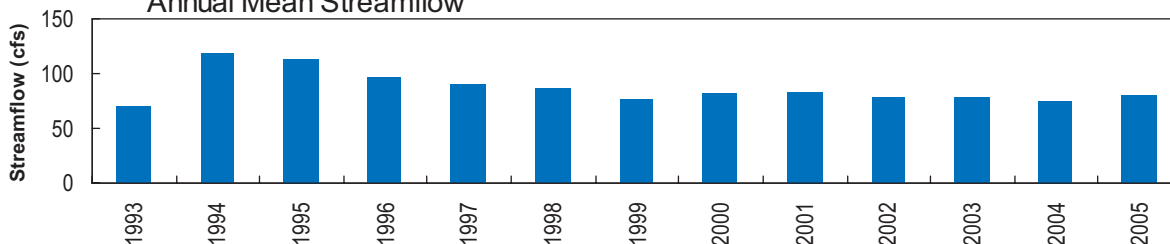


**Monthly Statistics**

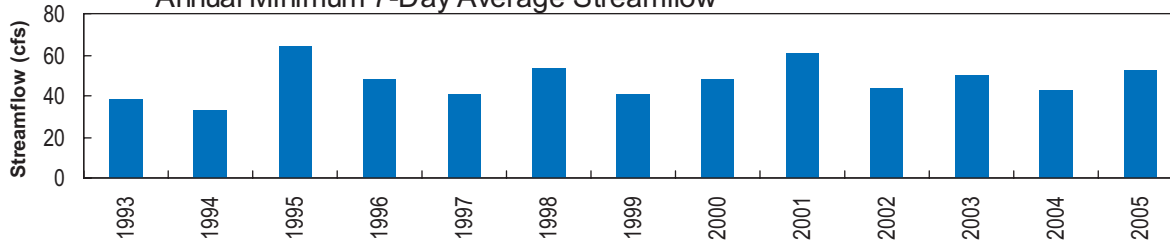
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 2001 – 2005



**Annual Mean Streamflow**



**Annual Minimum 7-Day Average Streamflow**



## WILLAMETTE RIVER BASIN

14188610 SCHAFFER CREEK NEAR LACOMB, OR

LOCATION.--Lat 44°37'11", long 122°27'53", in NE ¼ SE ¼ sec.8, T.11 S., R.3 E., Linn County, Hydrologic Unit 17090006, on right bank, 40 ft upstream from Crabtree Creek and 8.0 mi east of LaComb.

DRAINAGE AREA.--1.03 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,900 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except those below 2.0 ft<sup>3</sup>/s and estimated daily discharges, which are poor. No regulation or diversion.

AVERAGE DISCHARGE.--12 years (water years 1994-2005), 7.32 ft<sup>3</sup>/s, 96.54 in/yr, 5,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 400 ft<sup>3</sup>/s Feb. 7, 1996, gage height, 7.93 ft, from rating curve extended above 110 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum discharge, 0.01 ft<sup>3</sup>/s Sept. 30, Oct. 1-5, 1999, Sept. 24, 25, 2001, Sept. 6, 7, 2003, Aug. 17-21, 2004, Sept. 4-7, 2005.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft<sup>3</sup>/s and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Dec. 10 | unkn | unknown                           | unknown             |      |      |                                   |                     |

Minimum discharge, 0.01 ft<sup>3</sup>/s, Sept. 4-7, gage height, 3.18 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN    | FEB   | MAR   | APR   | MAY    | JUN   | JUL   | AUG  | SEP  |
|-------|-------|-------|-------|--------|-------|-------|-------|--------|-------|-------|------|------|
| 1     | 1.8   | 7.0   | e2.6  | 2.1    | 3.4   | 3.4   | 10    | 4.3    | 1.2   | 1.8   | 0.27 | 0.06 |
| 2     | 1.7   | 15    | e2.4  | 1.7    | 3.3   | 3.2   | 11    | 5.1    | 1.7   | 1.4   | 0.21 | 0.05 |
| 3     | 1.4   | 14    | e2.2  | 1.5    | 3.6   | 2.9   | 10    | 4.2    | 1.5   | 1.4   | 0.22 | 0.04 |
| 4     | 1.4   | 8.8   | e2.2  | 1.3    | 4.4   | 2.6   | 7.7   | 5.1    | 1.3   | 1.3   | 0.25 | 0.02 |
| 5     | 1.3   | 6.5   | e2.2  | 1.1    | 4.6   | 2.3   | 6.7   | 5.1    | 3.3   | 1.2   | 0.23 | 0.02 |
| 6     | 4.0   | 5.1   | e2.0  | 1.3    | 4.1   | 2.1   | 8.3   | 5.2    | 13    | 1.3   | 0.20 | 0.03 |
| 7     | 3.9   | 4.3   | e2.2  | 1.5    | 3.4   | 2.1   | 11    | 5.5    | 28    | 1.1   | 0.18 | 0.04 |
| 8     | 5.4   | 3.7   | e32   | 1.4    | 2.9   | 2.0   | 13    | 6.6    | 14    | 1.0   | 0.18 | 0.05 |
| 9     | 10    | 3.0   | e60   | 1.1    | 2.7   | 1.9   | 13    | 6.2    | 7.9   | 1.2   | 0.17 | 0.06 |
| 10    | 7.0   | 2.7   | e75   | 1.0    | 2.5   | 1.8   | 9.5   | 12     | 5.3   | 1.3   | 0.12 | 0.94 |
| 11    | 5.4   | 2.3   | e55   | 0.81   | 2.5   | 1.8   | 12    | 10     | 4.2   | 1.5   | 0.10 | 0.38 |
| 12    | 4.4   | 2.0   | e30   | 0.81   | 3.3   | 1.7   | 9.2   | 7.1    | 3.6   | 1.3   | 0.11 | 0.21 |
| 13    | 4.1   | 1.8   | e13   | 0.80   | 4.6   | 1.4   | 6.5   | 5.3    | 3.3   | 1.2   | 0.14 | 0.16 |
| 14    | 3.6   | 1.7   | e13   | 0.68   | 3.7   | 1.2   | 4.8   | 4.6    | 3.0   | 1.2   | 0.15 | 0.13 |
| 15    | 3.2   | 1.8   | e10   | 1.1    | 3.2   | 1.2   | 5.2   | 4.3    | 2.8   | 1.2   | 0.14 | 0.10 |
| 16    | 3.0   | 1.6   | e6.5  | 2.1    | 3.1   | 1.4   | 19    | 7.0    | 2.8   | 1.0   | 0.11 | 0.10 |
| 17    | 4.1   | 1.3   | e4.8  | 6.8    | 2.8   | 1.8   | 15    | 8.5    | 3.7   | 1.0   | 0.09 | 0.10 |
| 18    | 13    | 1.7   | 4.2   | 54     | 2.7   | 1.8   | 9.0   | 13     | 4.0   | 1.00  | 0.10 | 0.09 |
| 19    | 14    | 1.9   | 3.6   | 26     | 3.6   | 4.2   | 7.1   | 10     | 3.8   | 0.85  | 0.10 | 0.08 |
| 20    | 8.6   | 1.7   | 2.7   | 15     | 6.9   | 4.9   | 6.5   | 8.6    | 3.5   | 0.68  | 0.10 | 0.07 |
| 21    | 7.5   | 1.6   | 2.1   | 10     | 5.8   | 4.7   | 6.8   | 8.0    | 3.1   | 0.70  | 0.09 | 0.07 |
| 22    | 9.5   | 1.5   | 2.1   | 8.0    | 5.1   | 5.5   | 8.2   | 6.5    | 2.5   | 0.69  | 0.07 | 0.06 |
| 23    | 12    | 1.7   | 1.8   | 6.7    | 4.4   | 5.4   | 13    | 4.4    | 2.4   | 0.54  | 0.04 | 0.06 |
| 24    | 9.7   | 4.6   | 1.8   | 5.5    | 3.8   | 4.5   | 12    | 3.3    | 2.3   | 0.40  | 0.07 | 0.05 |
| 25    | 8.1   | 22    | 2.1   | 4.8    | 3.4   | 4.0   | 8.8   | 3.2    | 2.1   | 0.40  | 0.08 | 0.06 |
| 26    | 7.5   | 11    | 2.3   | 4.6    | 3.2   | 12    | 7.6   | 3.0    | 1.8   | 0.45  | 0.07 | 0.06 |
| 27    | 5.9   | e6.5  | 2.1   | 4.2    | 3.0   | 56    | 7.2   | 2.4    | 1.8   | 0.45  | 0.07 | 0.05 |
| 28    | 4.7   | e4.0  | 2.1   | 3.7    | 3.4   | 37    | 6.2   | 1.5    | 2.0   | 0.38  | 0.06 | 0.05 |
| 29    | 4.1   | e3.2  | 2.2   | 4.9    | ---   | 15    | 4.2   | 0.92   | 2.0   | 0.37  | 0.03 | 0.07 |
| 30    | 6.4   | e2.8  | 2.3   | 4.5    | ---   | 7.9   | 3.7   | 0.80   | 1.9   | 0.34  | 0.03 | 0.40 |
| 31    | 6.9   | ---   | 2.2   | 3.9    | ---   | 6.7   | ---   | 0.66   | ---   | 0.32  | 0.04 | ---  |
| TOTAL | 183.6 | 146.8 | 348.7 | 182.90 | 103.4 | 204.4 | 272.2 | 172.38 | 133.8 | 28.97 | 3.82 | 3.66 |
| MEAN  | 5.92  | 4.89  | 11.2  | 5.90   | 3.69  | 6.59  | 9.07  | 5.56   | 4.46  | 0.93  | 0.12 | 0.12 |
| MAX   | 14    | 22    | 75    | 54     | 6.9   | 56    | 19    | 13     | 28    | 1.8   | 0.27 | 0.94 |
| MIN   | 1.3   | 1.3   | 1.8   | 0.68   | 2.5   | 1.2   | 3.7   | 0.66   | 1.2   | 0.32  | 0.03 | 0.02 |
| AC-FT | 364   | 291   | 692   | 363    | 205   | 405   | 540   | 342    | 265   | 57    | 7.6  | 7.3  |
| CFSM  | 5.75  | 4.75  | 10.9  | 5.73   | 3.59  | 6.40  | 8.81  | 5.40   | 4.33  | 0.91  | 0.12 | 0.12 |
| IN.   | 6.63  | 5.30  | 12.59 | 6.61   | 3.73  | 7.38  | 9.83  | 6.23   | 4.83  | 1.05  | 0.14 | 0.13 |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 4.40   | 10.5   | 14.3   | 13.3   | 10.8   | 10.4   | 10.3   | 7.70   | 4.14   | 0.76   | 0.37   | 0.99   |
| MAX  | 9.18   | 28.8   | 24.2   | 21.4   | 23.7   | 20.9   | 17.6   | 16.4   | 7.78   | 1.89   | 2.40   | 4.79   |
| (WY) | (1997) | (1996) | (1997) | (2004) | (1996) | (2003) | (2002) | (1999) | (1999) | (1997) | (2004) | (2004) |
| MIN  | 0.32   | 0.97   | 4.44   | 4.42   | 3.69   | 6.59   | 5.79   | 3.84   | 1.00   | 0.13   | 0.04   | 0.04   |
| (WY) | (2003) | (1994) | (1998) | (2001) | (2005) | (2005) | (2004) | (1994) | (2003) | (2003) | (2003) | (2001) |

WILLAMETTE RIVER BASIN

14188610 SCHAFER CREEK NEAR LACOMB, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1994 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 2,526.99               |        | 1,784.63            |        | 7.32                    |              |
| ANNUAL MEAN              | 6.90                   |        | 4.89                |        | 10.5                    |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 4.20                    |              |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 170                     |              |
| HIGHEST DAILY MEAN       | 170                    | Jan 29 | 75                  | Dec 10 | 170                     | Jan 29, 2004 |
| LOWEST DAILY MEAN        | 0.02                   | Aug 17 | 0.02                | Sep 4  | 0.01                    | Oct 3, 1999  |
| ANNUAL SEVEN-DAY MINIMUM | 0.02                   | Aug 15 | 0.04                | Sep 2  | 0.02                    | Sep 29, 1999 |
| ANNUAL RUNOFF (AC-FT)    | 5,010                  |        | 3,540               |        | 5,300                   |              |
| ANNUAL RUNOFF (CFSM)     | 6.70                   |        | 4.75                |        | 7.11                    |              |
| ANNUAL RUNOFF (INCHES)   | 91.27                  |        | 64.45               |        | 96.54                   |              |
| 10 PERCENT EXCEEDS       | 14                     |        | 10                  |        | 17                      |              |
| 50 PERCENT EXCEEDS       | 4.4                    |        | 2.7                 |        | 3.7                     |              |
| 90 PERCENT EXCEEDS       | 0.13                   |        | 0.10                |        | 0.15                    |              |

e Estimated



2005 Water Year  
SANTIAM RIVER BASIN  
14188610 SCHAFFER CREEK NEAR LACOMB, OR

Latitude: 44° 37' 11"

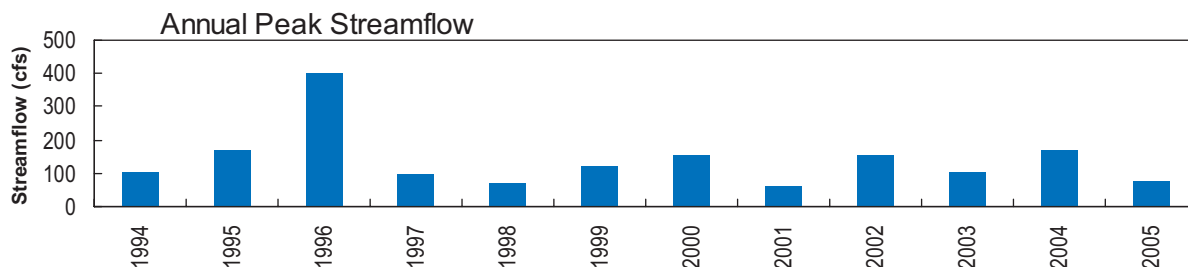
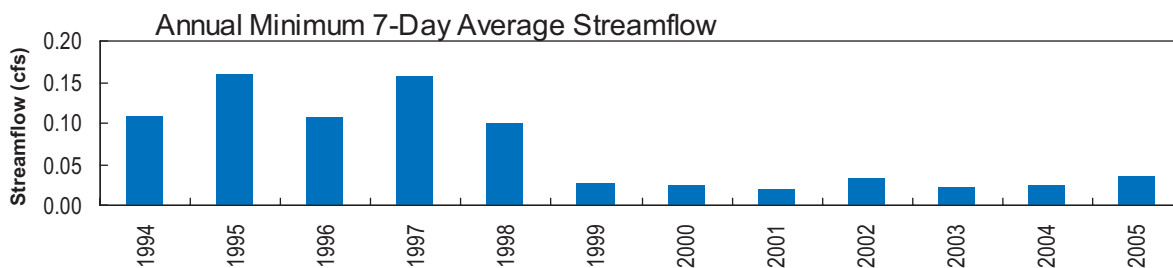
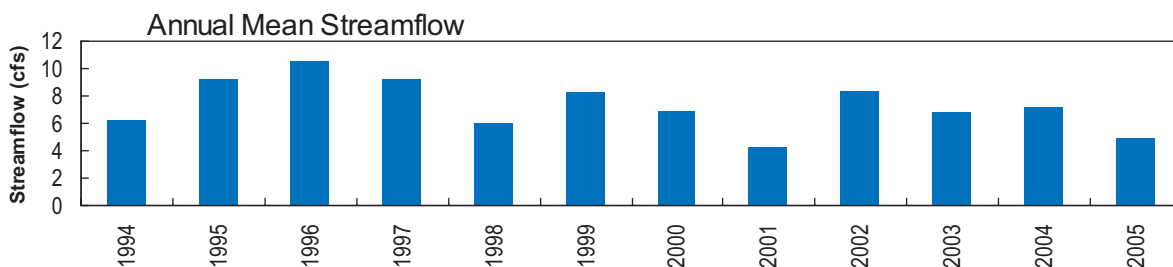
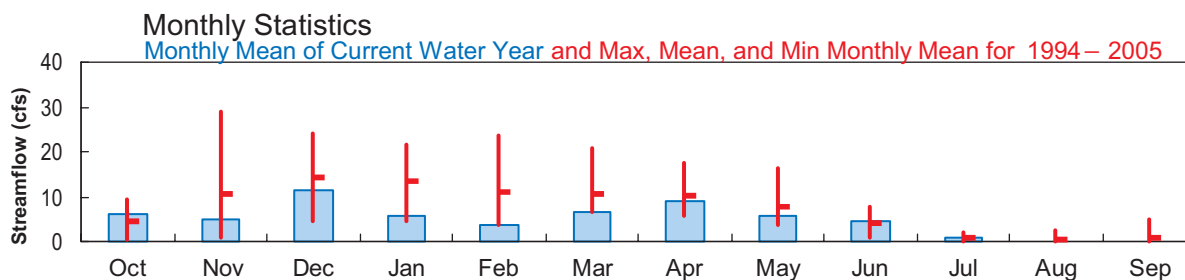
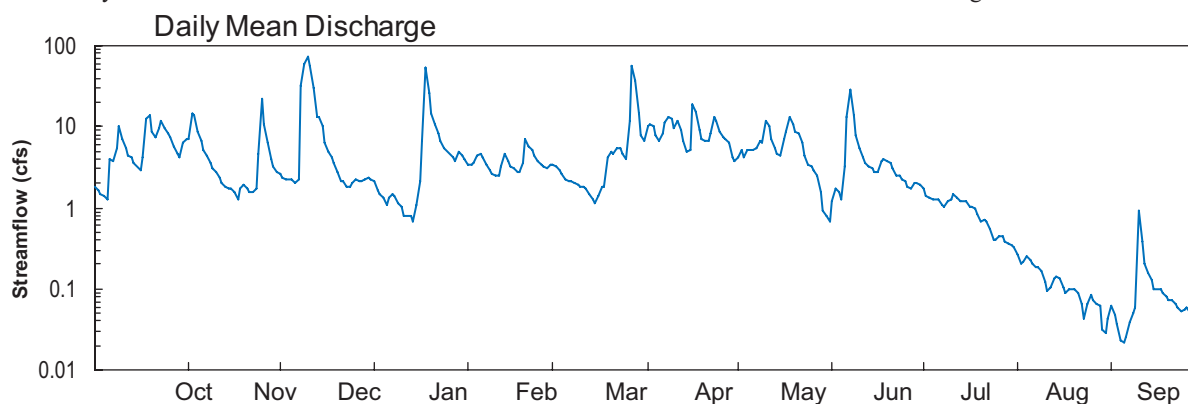
Longitude: 122° 27' 53"

Hydrologic Unit Code: 17090006

Linn County

Datum: 2900 feet

Drainage Area: 1.03 mi<sup>2</sup>



## 14188800 THOMAS CREEK NEAR SCIO, OR

DRAINAGE AREA.--109.73 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1962 to September 1987, October 2002 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 370 ft above NGVD of 1929, from topographic map. October 1962 to 1986, at site 0.4 mi upstream, on left bank, at 380.84 ft above NGVD of 1929.

REMARKS.--No estimated daily discharges. Records fair. No regulation. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1963-1987, 2003-05), 487 ft<sup>3</sup>/s, 60.28 in/yr, 352,700 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, 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, 19.58 ft, Jan. 21, 1972 (backwater from debris), datum then in use; minimum discharge, 3.4 ft<sup>3</sup>/s Sept. 6, 2003.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft<sup>3</sup>/s and maximum (\*):

| Date   | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date   | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|--------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| Dec 11 | 1000 | 3.920                             | 10.81               | Mar 27 | 1400 | *5.250                            | *11.80              |

Minimum discharge, 10 ft<sup>3</sup>/s, Sept. 30, gage height, 4.18 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL   | AUG   | SEP  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|------|
| 1     | 68     | 286    | 331    | 255    | 269    | 136    | 1,120  | 267    | 298    | 155   | 34    | 15   |
| 2     | 63     | 526    | 302    | 234    | 239    | 126    | 1,000  | 267    | 310    | 144   | 35    | 14   |
| 3     | 59     | 811    | 269    | 214    | 222    | 122    | 894    | 231    | 259    | 136   | 33    | 15   |
| 4     | 55     | 564    | 252    | 200    | 219    | 115    | 843    | 234    | 230    | 125   | 31    | 15   |
| 5     | 52     | 433    | 251    | 188    | 220    | 108    | 717    | 225    | 268    | 116   | 29    | 14   |
| 6     | 131    | 351    | 280    | 182    | 208    | 103    | 629    | 318    | 705    | 123   | 28    | 13   |
| 7     | 140    | 294    | 471    | 197    | 215    | 98     | 741    | 324    | 901    | 121   | 27    | 13   |
| 8     | 160    | 251    | 2,000  | 201    | 192    | 94     | 902    | 325    | 708    | 109   | 27    | 12   |
| 9     | 546    | 221    | 1,920  | 186    | 181    | 91     | 862    | 410    | 531    | 128   | 25    | 13   |
| 10    | 315    | 201    | 2,410  | 178    | 171    | 87     | 725    | 867    | 430    | 131   | 25    | 25   |
| 11    | 226    | 183    | 3,070  | 168    | 165    | 84     | 841    | 913    | 434    | 127   | 24    | 29   |
| 12    | 183    | 168    | 1,810  | 164    | 170    | 83     | 775    | 694    | 398    | 109   | 23    | 22   |
| 13    | 155    | 163    | 1,120  | 177    | 262    | 78     | 704    | 550    | 353    | 100   | 24    | 18   |
| 14    | 132    | 149    | 1,010  | 169    | 222    | 74     | 666    | 467    | 319    | 92    | 22    | 16   |
| 15    | 116    | 158    | 790    | 171    | 201    | 72     | 604    | 431    | 283    | 85    | 20    | 15   |
| 16    | 109    | 190    | 649    | 215    | 189    | 74     | 1,070  | 506    | 264    | 79    | 19    | 15   |
| 17    | 141    | 160    | 542    | 344    | 177    | 136    | 1,300  | 642    | 343    | 76    | 20    | 21   |
| 18    | 391    | 215    | 465    | 1,470  | 167    | 99     | 1,290  | 846    | 355    | 70    | 21    | 20   |
| 19    | 476    | 227    | 410    | 900    | 166    | 134    | 1,010  | 1,220  | 356    | 64    | 21    | 17   |
| 20    | 334    | 201    | 367    | 605    | 234    | 162    | 815    | 1,070  | 329    | 60    | 19    | 15   |
| 21    | 292    | 181    | 330    | 468    | 205    | 192    | 682    | 939    | 282    | 58    | 18    | 14   |
| 22    | 303    | 169    | 321    | 383    | 187    | 170    | 588    | 910    | 257    | 60    | 18    | 13   |
| 23    | 340    | 161    | 289    | 325    | 172    | 197    | 633    | 720    | 234    | 58    | 17    | 13   |
| 24    | 311    | 240    | 263    | 284    | 160    | 216    | 657    | 599    | 209    | 54    | 17    | 13   |
| 25    | 280    | 620    | 248    | 250    | 152    | 207    | 549    | 504    | 192    | 50    | 16    | 12   |
| 26    | 318    | 559    | 364    | 227    | 144    | 428    | 475    | 425    | 177    | 48    | 15    | 12   |
| 27    | 265    | 427    | 307    | 213    | 136    | 3,510  | 415    | 365    | 188    | 44    | 15    | 12   |
| 28    | 233    | 346    | 273    | 198    | 135    | 3,050  | 366    | 326    | 236    | 41    | 14    | 11   |
| 29    | 216    | 293    | 264    | 427    | ---    | 2,510  | 324    | 293    | 198    | 39    | 15    | 11   |
| 30    | 285    | 278    | 258    | 362    | ---    | 1,590  | 296    | 267    | 171    | 37    | 19    | 28   |
| 31    | 331    | ---    | 238    | 303    | ---    | 1,080  | ---    | 245    | ---    | 36    | 17    | ---  |
| TOTAL | 7,026  | 9,026  | 21,874 | 9,858  | 5,380  | 15,226 | 22,493 | 16,400 | 10,218 | 2,675 | 688   | 476  |
| MEAN  | 227    | 301    | 706    | 318    | 192    | 491    | 750    | 529    | 341    | 86.3  | 22.2  | 15.9 |
| MAX   | 546    | 811    | 3,070  | 1,470  | 269    | 3,510  | 1,300  | 1,220  | 901    | 155   | 35    | 29   |
| MIN   | 52     | 149    | 238    | 164    | 135    | 72     | 296    | 225    | 171    | 36    | 14    | 11   |
| AC-FT | 13,940 | 17,900 | 43,390 | 19,550 | 10,670 | 30,200 | 44,610 | 32,530 | 20,270 | 5,310 | 1,360 | 944  |
| CFSM  | 2.07   | 2.74   | 6.43   | 2.90   | 1.75   | 4.48   | 6.83   | 4.82   | 3.10   | 0.79  | 0.20  | 0.14 |
| IN.   | 2.38   | 3.06   | 7.42   | 3.34   | 1.82   | 5.16   | 7.63   | 5.56   | 3.46   | 0.91  | 0.23  | 0.14 |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2005, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 168    | 672    | 1,066  | 1,053  | 843    | 722    | 571    | 376    | 207    | 76.4   | 41.0   | 65.3   |
| MAX  | 633    | 1,898  | 2,310  | 1,836  | 1,666  | 1,504  | 921    | 744    | 682    | 407    | 203    | 251    |
| (WY) | (1969) | (1974) | (1965) | (1972) | (1986) | (1972) | (2003) | (1963) | (1984) | (1983) | (1968) | (1968) |
| MIN  | 22.9   | 127    | 104    | 144    | 176    | 245    | 298    | 168    | 70.2   | 22.5   | 10.7   | 11.6   |
| (WY) | (2003) | (2003) | (1977) | (1977) | (1977) | (1965) | (1968) | (1973) | (2003) | (2003) | (2003) | (2003) |

WILLAMETTE RIVER BASIN

14188800 THOMAS CREEK NEAR SCIO, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1963 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 148,566                |        | 121,340             |        |                         |              |
| ANNUAL MEAN              | 406                    |        | 332                 |        | 487                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 760                     | 1974         |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 229                     | 1977         |
| HIGHEST DAILY MEAN       | 4,430                  | Jan 29 | 3,510               | Mar 27 | 11,400                  | Dec 22, 1964 |
| LOWEST DAILY MEAN        | 11                     | Aug 19 | 11                  | Sep 28 | 4.5                     | Sep 6, 2003  |
| ANNUAL SEVEN-DAY MINIMUM | 12                     | Aug 15 | 12                  | Sep 23 | 5.4                     | Aug 31, 2003 |
| ANNUAL RUNOFF (AC-FT)    | 294,700                |        | 240,700             |        | 352,700                 |              |
| ANNUAL RUNOFF (CFSM)     | 3.70                   |        | 3.03                |        | 4.44                    |              |
| ANNUAL RUNOFF (INCHES)   | 50.37                  |        | 41.14               |        | 60.28                   |              |
| 10 PERCENT EXCEEDS       | 863                    |        | 781                 |        | 1,140                   |              |
| 50 PERCENT EXCEEDS       | 242                    |        | 215                 |        | 274                     |              |
| 90 PERCENT EXCEEDS       | 34                     |        | 19                  |        | 27                      |              |



2005 Water Year  
SANTIAM RIVER BASIN

**14188800 THOMAS CREEK NEAR SCIO, OR**

Latitude: 44° 42' 44"

Longitude: 122° 46' 08"

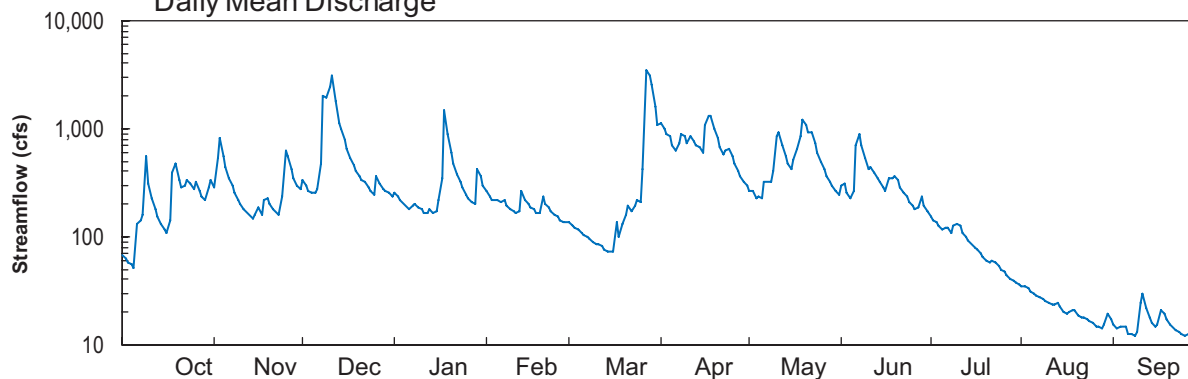
Hydrologic Unit Code: 17090006

Linn County

Datum: 370 feet

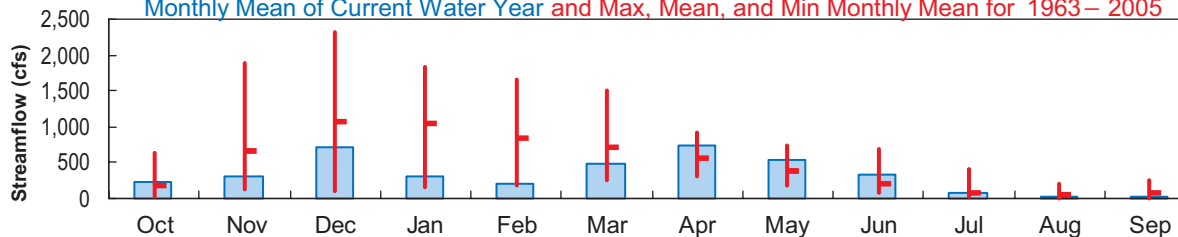
Drainage Area: 110 mi<sup>2</sup>

**Daily Mean Discharge**

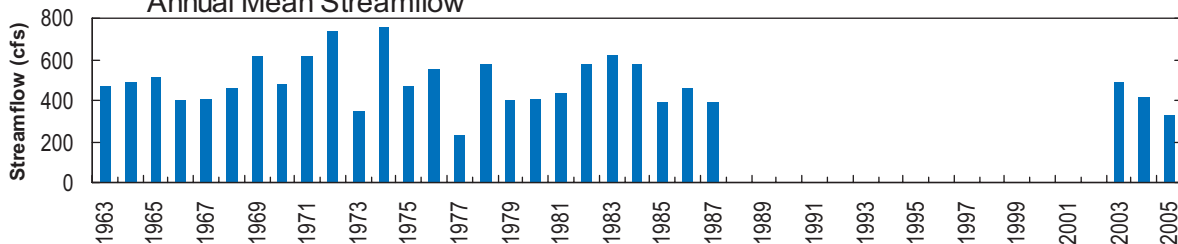


**Monthly Statistics**

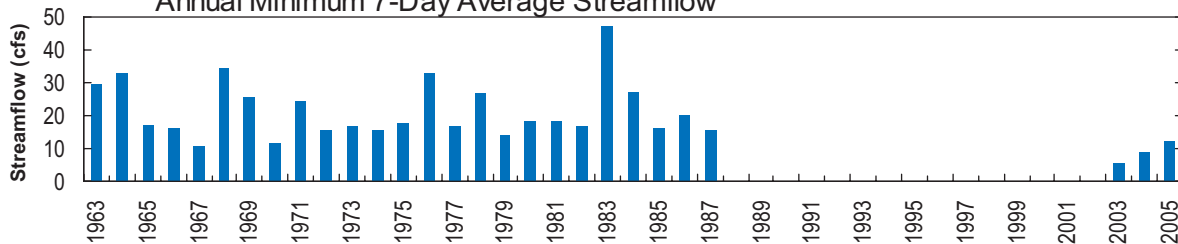
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1963–2005



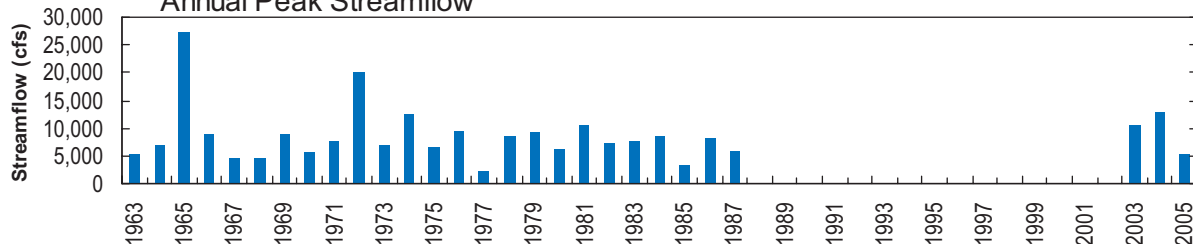
**Annual Mean Streamflow**



**Annual Minimum 7-Day Average Streamflow**



**Annual Peak Streamflow**





## WILLAMETTE RIVER BASIN

14188850 THOMAS CREEK NEAR CRABTREE, OR

LOCATION.--Lat 44°41'26", long 122°56'20", in SW ¼ SE ¼ sec.63, T.10 S., R.2 W., Linn County, Hydrologic Unit 17090006, on right bank, 4.2 mi northwest of Crabtree, and at mile 2.2.

DRAINAGE AREA.--142.68 mi<sup>2</sup>.

PERIOD OF RECORD.--October 2002 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 247 ft above NGVD of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.43 ft Dec. 13, 2003; minimum gage height, 4.52 ft Sept. 6, 2003.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.76 ft Mar. 27; minimum gage height, 4.96 ft Sept. 30.

GAGE HEIGHT, FEET  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY        | OCT       | NOV       | DEC      | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|------------|-----------|-----------|----------|------|------|-------|------|------|------|------|------|------|
| 1          | 5.32      | 6.31      | 6.53     | 6.37 | 6.40 | 5.82  | 8.05 | 6.36 | 6.34 | 5.80 | 5.20 | 5.04 |
| 2          | 5.30      | 6.62      | 6.47     | 6.34 | 6.31 | 5.77  | 7.94 | 6.36 | 6.44 | 5.76 | 5.20 | 5.02 |
| 3          | 5.30      | 7.56      | 6.36     | 6.24 | 6.25 | 5.75  | 7.72 | 6.26 | 6.27 | 5.73 | 5.23 | 5.02 |
| 4          | 5.28      | 7.08      | 6.29     | 6.19 | 6.22 | 5.73  | 7.68 | 6.25 | 6.16 | 5.69 | 5.16 | 5.08 |
| 5          | 5.26      | 6.77      | 6.30     | 6.12 | 6.24 | 5.70  | 7.43 | 6.22 | 6.19 | 5.64 | 5.14 | 5.04 |
| 6          | 5.45      | 6.55      | 6.40     | 6.08 | 6.19 | 5.67  | 7.24 | 6.45 | 7.11 | 5.64 | 5.14 | 5.01 |
| 7          | 5.78      | 6.38      | 6.86     | 6.14 | 6.25 | 5.64  | 7.46 | 6.53 | 7.60 | 5.68 | 5.14 | 5.03 |
| 8          | 5.58      | 6.26      | 8.81     | 6.23 | 6.13 | 5.61  | 7.87 | 6.47 | 7.35 | 5.60 | 5.11 | 5.01 |
| 9          | 6.86      | 6.17      | 9.01     | 6.14 | 6.07 | 5.59  | 7.72 | 6.70 | 6.97 | 5.67 | 5.12 | 5.02 |
| 10         | 6.42      | 6.07      | 9.35     | 6.10 | 6.03 | 5.57  | 7.45 | 7.62 | 6.73 | 5.70 | 5.09 | 5.08 |
| 11         | 6.11      | 6.00      | 10.00    | 6.05 | 6.00 | 5.55  | 7.71 | 7.78 | 6.73 | 5.69 | 5.10 | 5.19 |
| 12         | 5.92      | 5.93      | 9.01     | 6.01 | 6.00 | 5.54  | 7.56 | 7.36 | 6.66 | 5.60 | 5.08 | 5.15 |
| 13         | 5.79      | 5.89      | 8.16     | 6.06 | 6.35 | 5.52  | 7.46 | 7.06 | 6.52 | 5.57 | 5.09 | 5.08 |
| 14         | 5.70      | 5.84      | 7.99     | 6.03 | 6.26 | 5.50  | 7.34 | 6.88 | 6.43 | 5.53 | 5.09 | 5.05 |
| 15         | 5.62      | 5.83      | 7.62     | 6.02 | 6.17 | 5.48  | 7.20 | 6.77 | 6.32 | 5.51 | 5.07 | 5.04 |
| 16         | 5.57      | 6.05      | 7.36     | 6.18 | 6.10 | 5.48  | 7.89 | 6.86 | 6.24 | 5.47 | 5.04 | 5.07 |
| 17         | 5.62      | 5.91      | 7.15     | 6.34 | 6.04 | 5.73  | 8.38 | 7.17 | 6.44 | 5.45 | 5.04 | 5.07 |
| 18         | 6.29      | 6.06      | 6.96     | 8.29 | 6.00 | 5.65  | 8.49 | 7.59 | 6.49 | 5.42 | 5.05 | 5.11 |
| 19         | 6.84      | 6.21      | 6.83     | 7.74 | 5.98 | 5.64  | 7.98 | 8.33 | 6.50 | 5.38 | 5.05 | 5.08 |
| 20         | 6.46      | 6.08      | 6.72     | 7.21 | 6.20 | 5.88  | 7.63 | 8.12 | 6.42 | 5.35 | 5.04 | 5.06 |
| 21         | 6.27      | 6.00      | 6.61     | 6.92 | 6.15 | 6.02  | 7.36 | 7.88 | 6.28 | 5.34 | 5.04 | 5.05 |
| 22         | 6.31      | 5.95      | 6.62     | 6.72 | 6.06 | 5.96  | 7.16 | 7.80 | 6.21 | 5.34 | 5.04 | 5.04 |
| 23         | 6.44      | 5.90      | 6.50     | 6.56 | 6.00 | 6.04  | 7.20 | 7.44 | 6.14 | 5.35 | 5.02 | 5.04 |
| 24         | 6.37      | 6.14      | 6.41     | 6.44 | 5.95 | 6.15  | 7.36 | 7.18 | 6.04 | 5.32 | 5.03 | 5.04 |
| 25         | 6.26      | 7.01      | 6.35     | 6.33 | 5.90 | 6.14  | 7.10 | 6.98 | 5.96 | 5.30 | 5.05 | 5.03 |
| 26         | 6.40      | 7.11      | 6.73     | 6.26 | 5.86 | 6.33  | 6.93 | 6.78 | 5.90 | 5.29 | 5.02 | 5.02 |
| 27         | 6.25      | 6.79      | 6.57     | 6.21 | 5.83 | 10.02 | 6.79 | 6.63 | 5.93 | 5.27 | 5.02 | 5.02 |
| 28         | 6.14      | 6.58      | 6.45     | 6.15 | 5.81 | 10.04 | 6.66 | 6.49 | 6.11 | 5.25 | 5.02 | 5.01 |
| 29         | 6.06      | 6.42      | 6.41     | 6.70 | ---  | 9.60  | 6.54 | 6.41 | 6.00 | 5.23 | 5.04 | 5.01 |
| 30         | 6.18      | 6.39      | 6.41     | 6.72 | ---  | 8.76  | 6.47 | 6.31 | 5.88 | 5.21 | 5.06 | 5.05 |
| 31         | 6.44      | ---       | 6.33     | 6.51 | ---  | 8.06  | ---  | 6.24 | ---  | 5.20 | 5.07 | ---  |
| MEAN       | 5.99      | 6.33      | 7.15     | 6.43 | 6.10 | 6.32  | 7.46 | 6.94 | 6.41 | 5.48 | 5.08 | 5.05 |
| MAX        | 6.86      | 7.56      | 10.00    | 8.29 | 6.40 | 10.04 | 8.49 | 8.33 | 7.60 | 5.80 | 5.23 | 5.19 |
| MIN        | 5.26      | 5.83      | 6.29     | 6.01 | 5.81 | 5.48  | 6.47 | 6.22 | 5.88 | 5.20 | 5.02 | 5.01 |
| CAL YR2004 | MEAN 6.39 | MAX 11.48 | MIN 4.89 |      |      |       |      |      |      |      |      |      |
| WTR YR2005 | MEAN 6.23 | MAX 10.04 | MIN 5.01 |      |      |       |      |      |      |      |      |      |

## WILLAMETTE RIVER BASIN

## 14189000 SANTIAM RIVER AT JEFFERSON, OR

LOCATION.--Lat 44°42'55", long 123°00'40", in SE ¼ 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 current year. Gage-height records collected at same site since 1907 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 904: Drainage area. WSP 1094: 1908, 1910, 1912, 1943. WSP 1248: 1911, 1915-16(M). WSP 1935: 1909, WDR OR-93-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 199.63 ft above NGVD of 1929. Prior to Sept. 22, 1940, nonrecording gages at sites within 350 ft downstream at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good except those for the period Oct. 1-18, which are fair. 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 town of West Stayton; some return flow reaches North Santiam River upstream from station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany. Continuous water-quality records for the period October 1963 to September 1987 have been collected at this location. Water temperature data for the period October 2000 to June 2001 available in the files of the Portland Field Office. Periodic suspended sediment data are available for the period October 1991 to September 1993.

AVERAGE DISCHARGE.--22 years (water years 1908-16, 1940-1952), 7,587 ft<sup>3</sup>/s, 5,497,000 acre-ft/yr. 53 years (water years 1953-2005), 7,742 ft<sup>3</sup>/s, 5,609,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft<sup>3</sup>/s Dec. 22, 1964, gage height, 24.22 ft; minimum discharge 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 U.S. Army 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,800 ft<sup>3</sup>/s Dec. 11, gage height, 10.98 ft; minimum discharge, 1,540 ft<sup>3</sup>/s Aug. 26-29.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

| DAY   | OCT     | NOV     | DEC     | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG    | SEP     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|
| 1     | 3,650   | 9,140   | 6,790   | 5,950   | 3,400   | 2,670   | 9,110   | 6,700   | 5,140   | 3,300   | 1,700  | 1,600   |
| 2     | 3,640   | 9,240   | 6,890   | 5,780   | 3,280   | 2,650   | 9,590   | 6,690   | 5,550   | 3,200   | 1,700  | 1,630   |
| 3     | 3,610   | 10,100  | 5,760   | 5,410   | 3,190   | 2,610   | 8,890   | 6,570   | 5,440   | 3,130   | 1,670  | 1,760   |
| 4     | 3,580   | 10,500  | 5,030   | 4,670   | 3,100   | 2,570   | 8,970   | 6,540   | 4,850   | 3,060   | 1,650  | 1,890   |
| 5     | 3,550   | 9,530   | 5,010   | 3,950   | 3,130   | 2,510   | 7,950   | 6,860   | 4,970   | 2,980   | 1,630  | 1,970   |
| 6     | 3,810   | 8,700   | 5,270   | 3,750   | 3,080   | 2,300   | 7,280   | 7,230   | 6,890   | 2,940   | 1,620  | 2,040   |
| 7     | 4,790   | 8,270   | 6,660   | 3,690   | 3,200   | 2,160   | 7,320   | 7,440   | 9,380   | 2,950   | 1,630  | 2,230   |
| 8     | 4,810   | 7,960   | 12,300  | 3,790   | 3,110   | 2,080   | 9,400   | 7,190   | 9,940   | 2,900   | 1,620  | 2,600   |
| 9     | 6,530   | 7,710   | 19,200  | 3,720   | 3,010   | 2,030   | 9,410   | 7,400   | 7,930   | 2,880   | 1,620  | 2,810   |
| 10    | 6,760   | 7,480   | 24,300  | 3,660   | 2,940   | 1,990   | 8,270   | 9,710   | 7,040   | 2,760   | 1,610  | 2,940   |
| 11    | 6,570   | 7,300   | 25,700  | 3,570   | 2,870   | 1,960   | 8,110   | 12,300  | 6,300   | 2,690   | 1,610  | 3,070   |
| 12    | 6,550   | 7,160   | 25,300  | 3,490   | 2,840   | 1,930   | 8,490   | 9,940   | 6,450   | 2,590   | 1,610  | 3,140   |
| 13    | 5,570   | 6,760   | 19,800  | 3,510   | 3,340   | 1,910   | 8,060   | 7,970   | 6,010   | 2,620   | 1,620  | 3,170   |
| 14    | 5,120   | 6,330   | 17,500  | 3,420   | 3,650   | 1,880   | 7,530   | 6,970   | 5,180   | 2,430   | 1,600  | 3,180   |
| 15    | 4,930   | 6,180   | 16,900  | 3,240   | 3,380   | 1,840   | 7,030   | 6,470   | 4,830   | 2,350   | 1,590  | 3,190   |
| 16    | 4,720   | 6,260   | 14,800  | 3,270   | 3,190   | 1,800   | 7,350   | 6,270   | 4,460   | 2,260   | 1,580  | 3,270   |
| 17    | 4,640   | 5,790   | 12,900  | 3,430   | 3,050   | 1,860   | 10,300  | 7,950   | 4,490   | 2,230   | 1,590  | 3,320   |
| 18    | 5,270   | 5,570   | 11,700  | 9,290   | 2,940   | 1,980   | 11,100  | 8,280   | 5,980   | 2,210   | 1,590  | 3,360   |
| 19    | 6,880   | 5,580   | 10,500  | 10,800  | 2,880   | 1,970   | 9,890   | 10,200  | 6,310   | 2,130   | 1,590  | 3,400   |
| 20    | 6,390   | 5,510   | 10,100  | 8,640   | 3,200   | 2,190   | 8,770   | 10,300  | 5,630   | 2,090   | 1,570  | 3,430   |
| 21    | 6,140   | 5,410   | 9,800   | 7,110   | 3,390   | 2,360   | 8,100   | 10,700  | 5,070   | 2,040   | 1,560  | 3,390   |
| 22    | 6,850   | 5,320   | 9,760   | 6,370   | 3,210   | 2,400   | 7,310   | 11,400  | 4,830   | 2,060   | 1,570  | 3,360   |
| 23    | 7,920   | 5,230   | 9,690   | 6,100   | 3,070   | 2,430   | 7,090   | 11,100  | 4,640   | 2,050   | 1,560  | 3,360   |
| 24    | 8,530   | 5,260   | 9,210   | 5,820   | 2,960   | 2,650   | 8,380   | 9,920   | 4,270   | 1,900   | 1,550  | 3,340   |
| 25    | 8,140   | 7,650   | 8,560   | 5,220   | 2,870   | 2,920   | 8,030   | 9,050   | 3,670   | 1,840   | 1,550  | 3,350   |
| 26    | 8,070   | 9,700   | 8,210   | 4,380   | 2,810   | 3,050   | 7,540   | 7,690   | 3,500   | 1,800   | 1,550  | 3,350   |
| 27    | 8,340   | 8,530   | 8,050   | 4,000   | 2,750   | 12,900  | 7,150   | 6,740   | 3,440   | 1,760   | 1,540  | 3,340   |
| 28    | 8,160   | 7,770   | 7,530   | 3,670   | 2,690   | 19,000  | 6,940   | 6,120   | 3,700   | 1,740   | 1,540  | 3,340   |
| 29    | 8,020   | 7,290   | 6,810   | 3,660   | ---     | 16,100  | 6,720   | 5,600   | 3,730   | 1,720   | 1,550  | 3,330   |
| 30    | 8,100   | 6,980   | 6,690   | 3,890   | ---     | 13,100  | 6,670   | 5,390   | 3,470   | 1,710   | 1,580  | 3,340   |
| 31    | 8,750   | ---     | 6,510   | 3,570   | ---     | 10,100  | ---     | 5,260   | ---     | 1,700   | 1,590  | ---     |
| TOTAL | 188,390 | 220,210 | 353,230 | 150,820 | 86,530  | 129,900 | 246,750 | 247,950 | 163,090 | 74,020  | 49,540 | 87,500  |
| MEAN  | 6,077   | 7,340   | 11,390  | 4,865   | 3,090   | 4,190   | 8,225   | 7,998   | 5,436   | 2,388   | 1,598  | 2,917   |
| MAX   | 8,750   | 10,500  | 25,700  | 10,800  | 3,650   | 19,000  | 11,100  | 12,300  | 9,940   | 3,300   | 1,700  | 3,430   |
| MIN   | 3,550   | 5,230   | 5,010   | 3,240   | 2,690   | 1,800   | 6,670   | 5,260   | 3,440   | 1,700   | 1,540  | 1,600   |
| AC-FT | 373,700 | 436,800 | 700,600 | 299,200 | 171,600 | 257,700 | 489,400 | 491,800 | 323,500 | 146,800 | 98,260 | 173,600 |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2005, BY WATER YEAR (WY)

|      | 4,741  | 11,180 | 15,900 | 14,770 | 11,300 | 9,250  | 8,359  | 7,095  | 4,493  | 1,865  | 1,440  | 2,689  |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN |        |        |        |        |        |        |        |        |        |        |        |        |
| MAX  | 11,890 | 26,850 | 37,880 | 30,310 | 32,350 | 25,700 | 16,150 | 14,180 | 11,150 | 4,825  | 2,883  | 5,325  |
| (WY) | (1969) | (1974) | (1965) | (1953) | (1996) | (1972) | (1993) | (1960) | (1984) | (1983) | (1968) | (1968) |
| MIN  | 432    | 622    | 2,420  | 2,178  | 1,897  | 3,245  | 3,874  | 2,115  | 1,287  | 944    | 747    | 887    |
| (WY) | (1953) | (1953) | (1977) | (1977) | (1977) | (1992) | (1968) | (1973) | (1992) | (1965) | (1966) | (1953) |

WILLAMETTE RIVER BASIN

14189000 SANTIAM RIVER AT JEFFERSON, OR—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1953 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 2,532,400              |        | 1,997,930           |        |                         |              |
| ANNUAL MEAN              | 6,919                  |        | 5,474               |        | 7,742                   |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 12,310                  | 1974         |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 3,512                   | 1977         |
| HIGHEST DAILY MEAN       | 37,900                 | Jan 29 | 25,700              | Dec 11 | 143,000                 | Dec 23, 1964 |
| LOWEST DAILY MEAN        | 1,150                  | Aug 21 | 1,540               | Aug 27 | 396                     | Oct 7, 1952  |
| ANNUAL SEVEN-DAY MINIMUM | 1,170                  | Aug 16 | 1,550               | Aug 23 | 406                     | Oct 15, 1952 |
| ANNUAL RUNOFF (AC-FT)    | 5,023,000              |        | 3,963,000           |        | 5,609,000               |              |
| 10 PERCENT EXCEEDS       | 14,300                 |        | 9,700               |        | 17,300                  |              |
| 50 PERCENT EXCEEDS       | 5,560                  |        | 4,670               |        | 5,100                   |              |
| 90 PERCENT EXCEEDS       | 1,580                  |        | 1,730               |        | 1,440                   |              |



2005 Water Year  
SANTIAM RIVER BASIN

14189000 SANTIAM RIVER AT JEFFERSON, OR

Latitude: 44° 42' 55"

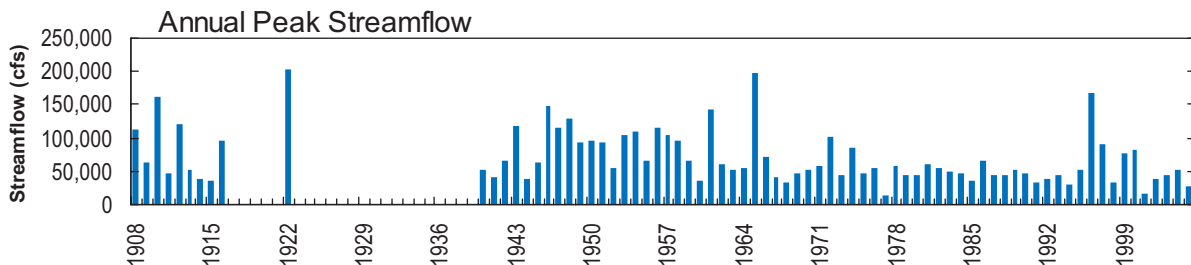
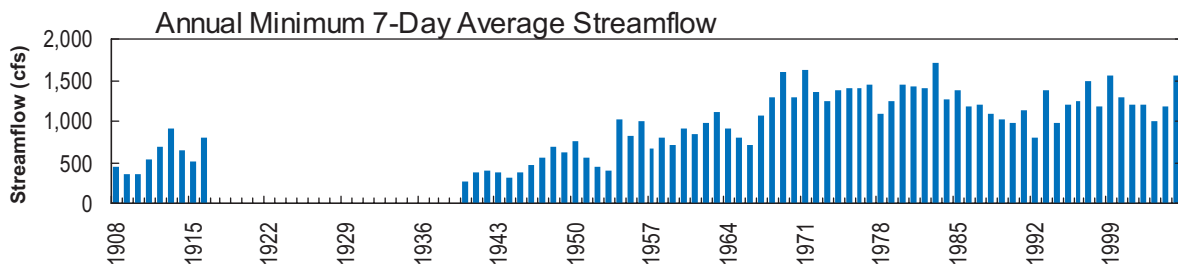
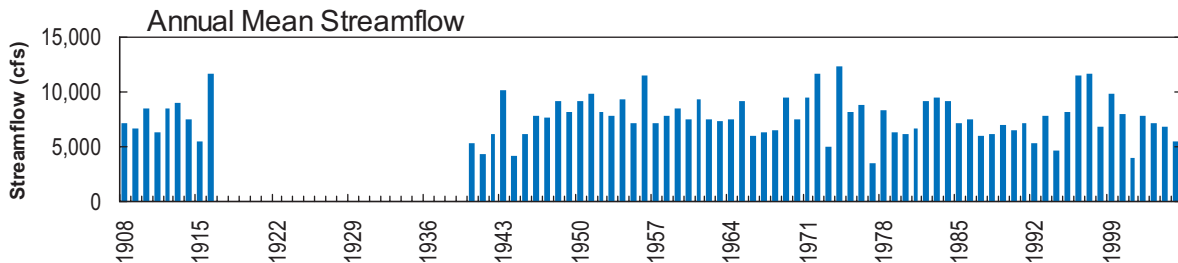
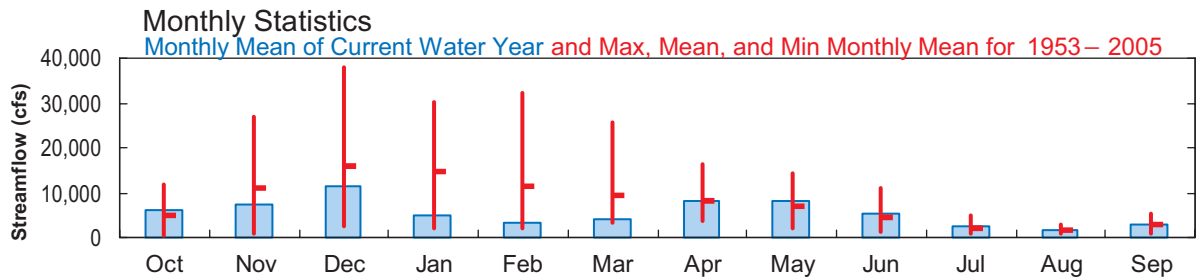
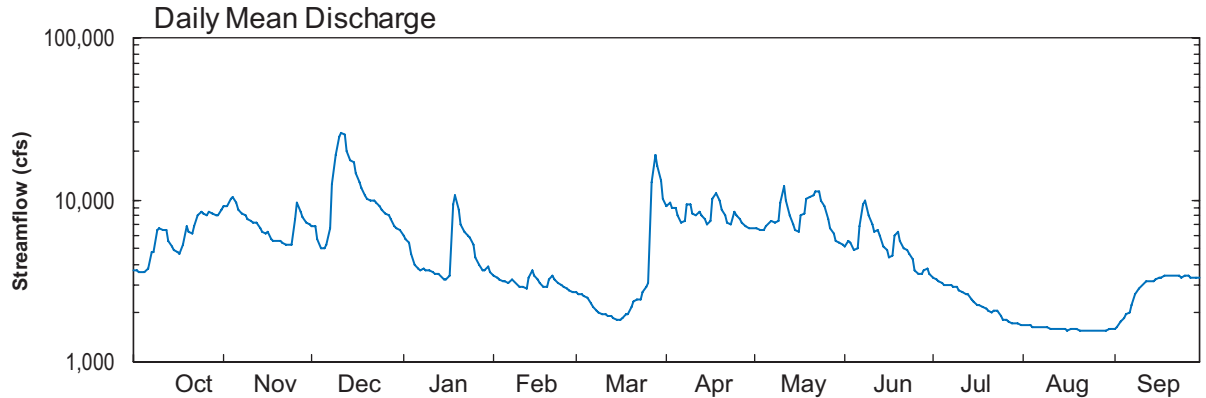
Longitude: 123° 00' 40"

Hydrologic Unit Code: 17090005

Marion County

Datum: 199.63 feet

Drainage Area: 1790 mi<sup>2</sup>



WILLAMETTE RIVER BASIN  
14189050 SANTIAM RIVER NEAR JEFFERSON, OR

WATER-QUALITY RECORDS

LOCATION.--Lat 44°44'20", long 123°02'55", in SW ¼ sec.34, T.9 S., R.3 W., Marion County, Hydrologic Unit 17090005, on right bank 0.1 mi upstream from Interstate 5 bridge in east side of Santiam Safety Rest Area, and at mile 6.2.

DRAINAGE AREA.--1,790 mi<sup>2</sup> approximately, at site (14189000) 3.42 mi upstream.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 2001 to current year.

INSTRUMENTATION.--Temperature probe and data logger.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 23.5°C July 24, 2004; minimum, 3.3°C Jan. 6, 2004.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 22.5°C July 18, 27, 28; minimum, 3.7°C Jan. 5.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 14.5    | 13.4 | 14.0 | 11.5     | 10.6 | 11.1 | 9.0      | 8.5 | 8.8  | 7.3     | 6.9 | 7.1  |
| 2     | 15.1    | 13.4 | 14.2 | 11.9     | 11.2 | 11.6 | 8.5      | 7.6 | 7.9  | 6.9     | 6.1 | 6.6  |
| 3     | 15.3    | 13.9 | 14.5 | 11.2     | 10.2 | 10.7 | 7.7      | 7.5 | 7.6  | 6.1     | 5.4 | 5.6  |
| 4     | 15.5    | 13.8 | 14.6 | 10.2     | 9.4  | 9.9  | 7.9      | 7.4 | 7.6  | 5.4     | 4.5 | 4.9  |
| 5     | 15.5    | 13.9 | 14.7 | 10.2     | 9.1  | 9.7  | 8.4      | 7.9 | 8.1  | 4.5     | 3.7 | 4.1  |
| 6     | 15.9    | 15.0 | 15.3 | 10.1     | 9.4  | 9.7  | 8.1      | 7.8 | 8.0  | 5.5     | 4.2 | 4.8  |
| 7     | 15.7    | 14.5 | 15.1 | 10.3     | 9.7  | 10.0 | 8.2      | 7.9 | 8.0  | 6.1     | 5.5 | 5.8  |
| 8     | 15.2    | 14.1 | 14.6 | 10.4     | 9.9  | 10.2 | 8.5      | 8.2 | 8.4  | 5.8     | 5.4 | 5.6  |
| 9     | 14.1    | 13.3 | 13.6 | 10.8     | 10.3 | 10.5 | 9.3      | 8.3 | 8.7  | 5.9     | 5.4 | 5.6  |
| 10    | 13.9    | 12.8 | 13.3 | 10.9     | 10.6 | 10.8 | 9.3      | 8.9 | 9.2  | 6.0     | 5.3 | 5.7  |
| 11    | 14.3    | 12.7 | 13.5 | 11.1     | 10.7 | 10.8 | 9.4      | 9.0 | 9.3  | 5.3     | 4.3 | 4.8  |
| 12    | 14.7    | 13.2 | 14.0 | 11.1     | 10.7 | 10.9 | 9.0      | 8.7 | 8.8  | 6.1     | 5.0 | 5.5  |
| 13    | 15.1    | 13.5 | 14.4 | 11.2     | 10.8 | 11.0 | 8.9      | 8.3 | 8.6  | 6.6     | 5.9 | 6.2  |
| 14    | 15.1    | 13.5 | 14.4 | 11.2     | 10.9 | 11.1 | 9.5      | 8.9 | 9.1  | 6.3     | 5.3 | 5.8  |
| 15    | 14.6    | 13.6 | 14.0 | 11.1     | 10.6 | 10.9 | 9.1      | 8.2 | 8.4  | 5.3     | 4.7 | 4.8  |
| 16    | 14.6    | 13.8 | 14.2 | 11.5     | 10.8 | 11.1 | 8.3      | 7.9 | 8.1  | 5.6     | 4.6 | 5.0  |
| 17    | 14.2    | 13.2 | 13.7 | 11.0     | 10.3 | 10.5 | 8.0      | 7.8 | 7.9  | 7.4     | 5.6 | 6.3  |
| 18    | 13.2    | 12.5 | 12.7 | 10.8     | 10.1 | 10.4 | 8.3      | 7.8 | 8.1  | 8.1     | 7.4 | 7.8  |
| 19    | 12.9    | 11.9 | 12.4 | 10.3     | 9.7  | 10.0 | 8.2      | 7.8 | 8.0  | 8.0     | 7.5 | 7.8  |
| 20    | 13.3    | 12.8 | 13.0 | 9.7      | 8.7  | 8.9  | 7.9      | 7.5 | 7.7  | 7.9     | 7.4 | 7.7  |
| 21    | 13.3    | 12.7 | 13.0 | 8.7      | 8.4  | 8.6  | 7.6      | 6.9 | 7.1  | 7.7     | 7.1 | 7.4  |
| 22    | 12.9    | 12.1 | 12.3 | 9.2      | 8.2  | 8.7  | 8.0      | 7.3 | 7.6  | 7.5     | 7.0 | 7.2  |
| 23    | 12.6    | 12.1 | 12.3 | 10.2     | 9.2  | 9.7  | 7.8      | 7.4 | 7.6  | 7.4     | 7.1 | 7.2  |
| 24    | 12.5    | 11.4 | 12.0 | 11.0     | 10.2 | 10.6 | 7.4      | 7.1 | 7.2  | 7.3     | 6.9 | 7.0  |
| 25    | 12.0    | 10.9 | 11.3 | 10.8     | 9.8  | 10.5 | 7.5      | 6.9 | 7.2  | 7.1     | 6.9 | 7.0  |
| 26    | 12.0    | 11.2 | 11.6 | 9.8      | 9.2  | 9.3  | 7.6      | 7.3 | 7.5  | 7.7     | 6.9 | 7.3  |
| 27    | 12.0    | 11.5 | 11.8 | 9.5      | 8.9  | 9.2  | 7.6      | 7.2 | 7.4  | 8.5     | 7.5 | 8.0  |
| 28    | 11.9    | 11.4 | 11.7 | 8.9      | 8.0  | 8.2  | 7.3      | 6.8 | 7.1  | 8.1     | 7.6 | 7.8  |
| 29    | 12.6    | 11.6 | 12.0 | 8.1      | 7.8  | 7.9  | 7.7      | 7.1 | 7.4  | 7.9     | 7.5 | 7.7  |
| 30    | 12.4    | 11.8 | 12.1 | 8.7      | 7.8  | 8.3  | 7.5      | 7.1 | 7.3  | 7.8     | 6.9 | 7.4  |
| 31    | 12.0    | 11.0 | 11.5 | ---      | ---  | ---  | 7.3      | 6.9 | 7.0  | 7.9     | 6.8 | 7.3  |
| MONTH | 15.9    | 10.9 | 13.3 | 11.9     | 7.8  | 10.0 | 9.5      | 6.8 | 8.0  | 8.5     | 3.7 | 6.4  |

## WILLAMETTE RIVER BASIN

14189050 SANTIAM RIVER NEAR JEFFERSON, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

| DAY      | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
|----------|------|------|-------|------|------|--------|------|------|-----------|------|------|------|
| FEBRUARY |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |      |
| 1        | 7.5  | 6.4  | 6.8   | 9.8  | 8.2  | 9.0    | 9.9  | 9.1  | 9.6       | 12.4 | 11.2 | 11.9 |
| 2        | 6.4  | 6.0  | 6.2   | 10.2 | 8.8  | 9.5    | 9.3  | 8.1  | 8.8       | 12.8 | 11.1 | 12.1 |
| 3        | 6.3  | 5.8  | 6.1   | 9.7  | 8.0  | 8.8    | 9.1  | 8.5  | 8.7       | 13.6 | 11.1 | 12.3 |
| 4        | 6.7  | 5.9  | 6.3   | 10.0 | 8.3  | 9.1    | 9.7  | 7.9  | 8.7       | 13.6 | 12.0 | 13.0 |
| 5        | 7.3  | 5.9  | 6.5   | 9.8  | 8.3  | 9.0    | 9.6  | 8.6  | 9.2       | 13.2 | 11.0 | 11.8 |
| 6        | 7.0  | 6.4  | 6.6   | 10.6 | 8.3  | 9.4    | 10.6 | 9.1  | 9.8       | 11.8 | 10.4 | 11.0 |
| 7        | 6.8  | 5.7  | 6.2   | 11.6 | 9.1  | 10.3   | 10.5 | 9.4  | 10.0      | 12.2 | 10.2 | 11.1 |
| 8        | 6.4  | 5.6  | 5.8   | 12.2 | 9.8  | 11.0   | 9.4  | 8.1  | 8.8       | 11.9 | 11.1 | 11.5 |
| 9        | 5.9  | 5.5  | 5.7   | 12.3 | 10.2 | 11.3   | 10.2 | 8.7  | 9.4       | 11.9 | 10.2 | 11.0 |
| 10       | 6.4  | 5.5  | 5.9   | 12.5 | 10.2 | 11.5   | 9.9  | 8.5  | 9.2       | 10.8 | 9.8  | 10.3 |
| 11       | 5.9  | 5.0  | 5.5   | 12.9 | 10.5 | 11.8   | 10.7 | 9.2  | 9.9       | 11.0 | 9.9  | 10.5 |
| 12       | 6.3  | 5.4  | 5.8   | 13.1 | 11.0 | 12.2   | 10.3 | 8.7  | 9.3       | 12.8 | 10.0 | 11.2 |
| 13       | 7.0  | 5.9  | 6.4   | 12.5 | 10.3 | 11.4   | 9.6  | 8.0  | 8.8       | 13.3 | 12.1 | 12.7 |
| 14       | 6.4  | 5.4  | 5.9   | 11.5 | 9.3  | 10.5   | 10.1 | 8.4  | 9.3       | 14.6 | 12.8 | 13.5 |
| 15       | 6.1  | 4.5  | 5.3   | 11.2 | 9.0  | 10.2   | 9.7  | 8.8  | 9.1       | 14.0 | 12.7 | 13.6 |
| 16       | 6.1  | 4.3  | 5.2   | 11.0 | 9.6  | 10     | 10.1 | 9.0  | 9.6       | 12.7 | 11.8 | 12.3 |
| 17       | 5.9  | 4.5  | 5.3   | 11.0 | 8.7  | 9.8    | 9.6  | 8.3  | 8.8       | 12.3 | 10.8 | 11.3 |
| 18       | 6.1  | 4.8  | 5.4   | 10.7 | 9.2  | 10.1   | 9.7  | 8.1  | 8.8       | 12.5 | 10.7 | 11.4 |
| 19       | 6.6  | 5.3  | 5.9   | 11.0 | 9.7  | 10.3   | 10.4 | 8.6  | 9.4       | 12.4 | 11.2 | 11.8 |
| 20       | 8.0  | 6.3  | 7.1   | 10.7 | 9.1  | 9.8    | 11.5 | 9.5  | 10.4      | 11.9 | 10.8 | 11.4 |
| 21       | 8.1  | 6.6  | 7.4   | 9.4  | 8.2  | 8.8    | 12.3 | 10.6 | 11.5      | 11.7 | 10.2 | 10.6 |
| 22       | 8.1  | 6.4  | 7.3   | 9.1  | 8.2  | 8.7    | 12.8 | 11.2 | 12.0      | 12.1 | 10.0 | 10.9 |
| 23       | 8.1  | 6.1  | 7.1   | 9.3  | 8.4  | 8.9    | 12.3 | 10.4 | 11.3      | 12.9 | 10.3 | 11.6 |
| 24       | 8.3  | 6.3  | 7.4   | 9.2  | 8.3  | 8.7    | 11.7 | 9.5  | 10.5      | 13.4 | 10.6 | 12.1 |
| 25       | 7.9  | 6.9  | 7.3   | 9.5  | 7.6  | 8.5    | 11.8 | 10.4 | 11.2      | 14.3 | 11.1 | 12.8 |
| 26       | 8.4  | 7.2  | 7.7   | 9.3  | 8.5  | 8.9    | 12.1 | 10.5 | 11.4      | 15.7 | 12.9 | 14.3 |
| 27       | 9.3  | 7.5  | 8.3   | 9.2  | 8.3  | 8.6    | 13.6 | 11.2 | 12.4      | 16.5 | 14.1 | 15.3 |
| 28       | 9.2  | 8.3  | 8.8   | 8.5  | 8.1  | 8.3    | 13.5 | 12.2 | 13.0      | 16.3 | 13.7 | 14.6 |
| 29       | ---  | ---  | ---   | 8.7  | 7.5  | 8.1    | 12.7 | 10.9 | 11.8      | 13.7 | 12.5 | 13.0 |
| 30       | ---  | ---  | ---   | 8.7  | 7.5  | 8.1    | 12.8 | 10.5 | 11.4      | 14.3 | 12.0 | 13.0 |
| 31       | ---  | ---  | ---   | 9.8  | 7.8  | 8.8    | ---  | ---  | ---       | 13.8 | 12.2 | 12.6 |
| MONTH    | 9.3  | 4.3  | 6.5   | 13.1 | 7.5  | 9.7    | 13.6 | 7.9  | 10.1      | 16.5 | 9.8  | 12.1 |
| JUNE     |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |      |
| 1        | 13.3 | 11.5 | 12.3  | 19.9 | 16.8 | 18.3   | 21.7 | 19.0 | 20.0      | 19.3 | 16.6 | 18.0 |
| 2        | 13.1 | 11.8 | 12.5  | 18.7 | 16.4 | 17.3   | 20.2 | 17.4 | 19.0      | 19.0 | 16.7 | 17.9 |
| 3        | 14.0 | 11.3 | 12.5  | 18.8 | 14.9 | 16.7   | 20.9 | 17.4 | 19.1      | 18.3 | 15.9 | 16.9 |
| 4        | 14.1 | 12.5 | 13.4  | 19.9 | 16.1 | 17.8   | 21.7 | 18.3 | 20.0      | 17.6 | 15.1 | 16.4 |
| 5        | 13.8 | 12.2 | 12.9  | 20.1 | 16.6 | 18.3   | 21.9 | 19.0 | 20.5      | 17.5 | 14.6 | 16.1 |
| 6        | 12.2 | 11.0 | 11.5  | 19.3 | 17.6 | 18.3   | 21.9 | 19.0 | 20.6      | 17.5 | 14.6 | 16.1 |
| 7        | 11.5 | 10.3 | 10.9  | 18.4 | 15.3 | 16.8   | 21.5 | 18.7 | 20.2      | 17.3 | 14.5 | 15.9 |
| 8        | 13.5 | 10.4 | 11.7  | 17.8 | 15.5 | 16.3   | 21.5 | 18.7 | 20.2      | 16.9 | 14.6 | 15.7 |
| 9        | 14.7 | 11.9 | 13.2  | 17.0 | 14.3 | 15.5   | 21.3 | 18.4 | 20.0      | 15.8 | 14.2 | 15.0 |
| 10       | 14.4 | 12.5 | 13.2  | 16.5 | 15.3 | 15.8   | 20.9 | 18.0 | 19.4      | 14.2 | 13.4 | 13.8 |
| 11       | 13.1 | 12.2 | 12.6  | 18.4 | 15.1 | 16.4   | 20.4 | 17.6 | 19.1      | 15.1 | 12.6 | 13.7 |
| 12       | 14.2 | 11.7 | 12.7  | 18.7 | 16.5 | 17.4   | 20.3 | 17.4 | 19.0      | 15.9 | 13.4 | 14.6 |
| 13       | 14.3 | 13.0 | 13.7  | 19.9 | 16.2 | 17.8   | 20.8 | 17.8 | 19.4      | 16.0 | 13.7 | 14.8 |
| 14       | 13.7 | 12.8 | 13.2  | 20.6 | 16.8 | 18.6   | 21.2 | 18.3 | 19.8      | 16.0 | 13.7 | 14.8 |
| 15       | 14.7 | 11.9 | 13.2  | 21.5 | 17.6 | 19.5   | 21.4 | 18.5 | 20.0      | 16.1 | 14.3 | 15.0 |
| 16       | 14.4 | 13.4 | 13.9  | 21.2 | 18.2 | 19.7   | 20.9 | 18.3 | 19.7      | 14.8 | 13.0 | 13.7 |
| 17       | 13.5 | 12.1 | 12.8  | 21.7 | 17.8 | 19.7   | 20.4 | 17.9 | 19.0      | 15.0 | 12.5 | 13.6 |
| 18       | 14.4 | 12.3 | 13.2  | 22.5 | 18.7 | 20.5   | 19.4 | 16.9 | 18.3      | 15.0 | 12.9 | 13.9 |
| 19       | 15.1 | 12.5 | 13.8  | 21.9 | 18.7 | 20.4   | 20.5 | 17.3 | 18.9      | 15.1 | 12.9 | 14.0 |
| 20       | 16.1 | 13.7 | 14.7  | 21.2 | 18.1 | 19.7   | 20.7 | 17.8 | 19.3      | 15.2 | 13.4 | 14.2 |
| 21       | 16.3 | 14.9 | 15.5  | 20.8 | 18.0 | 19.5   | 20.7 | 18.0 | 19.4      | 14.8 | 12.9 | 13.8 |
| 22       | 15.5 | 14.1 | 14.8  | 21.2 | 18.2 | 19.7   | 20.3 | 18.0 | 19.2      | 14.4 | 12.8 | 13.6 |
| 23       | 16.7 | 13.5 | 14.9  | 21.0 | 17.9 | 19.6   | 19.5 | 17.0 | 18.3      | 14.6 | 12.7 | 13.6 |
| 24       | 17.4 | 14.6 | 15.9  | 21.2 | 18.0 | 19.6   | 19.2 | 16.4 | 17.9      | 14.0 | 12.1 | 13.1 |
| 25       | 18.4 | 15.3 | 16.7  | 21.2 | 18.0 | 19.6   | 19.7 | 16.5 | 18.1      | 14.1 | 12.0 | 13.0 |
| 26       | 17.4 | 15.0 | 15.9  | 22.0 | 18.4 | 20.2   | 19.8 | 17.2 | 18.6      | 14.6 | 12.4 | 13.4 |
| 27       | 15.0 | 13.7 | 14.2  | 22.5 | 19.0 | 20.7   | 19.8 | 17.2 | 18.6      | 14.9 | 12.9 | 13.9 |
| 28       | 15.4 | 13.5 | 14.4  | 22.5 | 19.5 | 21.1   | 19.4 | 17.0 | 18.3      | 14.8 | 12.9 | 13.8 |
| 29       | 18.1 | 14.1 | 15.8  | 22.1 | 19.2 | 20.8   | 19.0 | 16.9 | 17.7      | 14.6 | 13.0 | 13.8 |
| 30       | 19.9 | 16.0 | 17.7  | 22.2 | 19.1 | 20.7   | 18.0 | 15.6 | 16.9      | 15.0 | 14.0 | 14.6 |
| 31       | ---  | ---  | ---   | 22.1 | 19.1 | 20.7   | 19.1 | 15.9 | 17.5      | ---  | ---  | ---  |
| MONTH    | 19.9 | 10.3 | 13.8  | 22.5 | 14.3 | 18.8   | 21.9 | 15.6 | 19.1      | 19.3 | 12.0 | 14.7 |
| YEAR     | 22.5 | 3.7  | 11.9  |      |      |        |      |      |           |      |      |      |