

RED RIVER OF THE NORTH BASIN--Continued

05061500 SOUTH BRANCH BUFFALO RIVER AT SABIN, MN

LOCATION--Lat 46°46'20", long 96°37'40", in SW¹/₄ SW¹/₄ sec. 9, T.138 N., R.47 W., Clay County, Hydrologic Unit 09020106, on left bank, on downstream side of County Road 67 bridge, 0.3 mi downstream from Stony Creek and 1 mi east of Sabin.

DRAINAGE AREA.--454 mi².

PERIOD OF RECORD.--March 1945 to current year. Water year 1981, annual maximum only. March 1982 to September 1985, no winter records.

REVISED RECORDS.--WSP 1308: 1949(M). WRIR 97-4249: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 902.39 ft above sea level (NGVD of 1929, levels by Soil Conservation Service). Prior to April 17, 1948, nonrecording gage at site 1 mi downstream at different datum. Aug. 17, 1948 to Oct. 4, 1989, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1 | 29 | 73 | e44 | e21 | e18 | e15 | e70 | 327 | 194 | 37 | 15 | 6.0 |
| 2 | 27 | 100 | e43 | e20 | e18 | e15 | e200 | 256 | 146 | 29 | 13 | 4.8 |
| 3 | 26 | 159 | e42 | e20 | e18 | e15 | e400 | 221 | 139 | 24 | 12 | 4.3 |
| 4 | 26 | 185 | e42 | e20 | e18 | e15 | e1100 | 195 | 140 | 19 | 10 | 5.1 |
| 5 | 24 | 174 | e41 | e20 | e17 | e15 | e1800 | 174 | 124 | 17 | 8.6 | 4.7 |
| 6 | 25 | 160 | e40 | e19 | e17 | e15 | e1600 | 167 | 103 | 16 | 6.8 | 5.0 |
| 7 | 27 | 212 | e39 | e19 | e17 | e15 | 2080 | 194 | 86 | 13 | 5.5 | 12 |
| 8 | 26 | 372 | e37 | e19 | e17 | e15 | 3290 | 250 | 75 | 12 | 4.4 | 14 |
| 9 | 27 | 525 | e35 | e19 | e17 | e15 | 3870 | 297 | 68 | 11 | 6.0 | 12 |
| 10 | 28 | 627 | e33 | e19 | e17 | e15 | 2970 | 293 | 78 | 11 | 6.1 | 12 |
| 11 | 32 | 622 | e31 | e18 | e17 | e15 | 1970 | 243 | 109 | 9.4 | 6.4 | 15 |
| 12 | 29 | 551 | e29 | e18 | e16 | e15 | 1940 | 194 | 169 | 11 | 7.1 | 11 |
| 13 | 28 | 430 | e28 | e18 | e16 | e15 | 2290 | 155 | 329 | 11 | 6.5 | 7.8 |
| 14 | 32 | 298 | e28 | e18 | e16 | e15 | 2160 | 126 | 557 | 7.3 | 5.7 | 6.7 |
| 15 | 31 | e215 | e27 | e18 | e16 | e16 | 1530 | 106 | 681 | 7.1 | 6.0 | 7.0 |
| 16 | 34 | e180 | e26 | e18 | e16 | e16 | 1110 | 91 | 626 | 12 | 5.8 | 9.2 |
| 17 | 38 | e150 | e26 | e18 | e16 | e16 | 869 | 77 | 488 | 13 | 6.5 | 7.7 |
| 18 | 40 | e115 | e25 | e18 | e16 | e16 | 666 | 66 | 319 | 12 | 4.6 | 10 |
| 19 | 40 | e90 | e25 | e18 | e16 | e16 | 510 | 62 | 210 | 12 | 3.7 | 12 |
| 20 | 39 | e70 | e24 | e18 | e16 | e16 | 407 | 58 | 231 | 20 | 3.8 | 12 |
| 21 | 37 | e63 | e24 | e18 | e15 | e16 | 350 | 56 | 289 | 59 | 4.3 | 11 |
| 22 | 36 | e58 | e24 | e18 | e15 | e16 | 316 | 60 | 343 | 91 | 4.4 | 13 |
| 23 | 35 | e56 | e23 | e18 | e15 | e16 | 305 | 87 | 359 | 102 | 4.1 | 15 |
| 24 | 34 | e54 | e23 | e18 | e15 | e16 | 351 | 121 | 295 | 82 | 4.6 | 17 |
| 25 | 34 | e52 | e22 | e18 | e15 | e16 | 607 | 144 | 194 | 57 | 3.8 | 18 |
| 26 | 38 | e50 | e22 | e18 | e15 | e16 | 1090 | 171 | 127 | 37 | 3.8 | 15 |
| 27 | 49 | e48 | e22 | e18 | e15 | e16 | 1210 | 169 | 95 | 26 | 4.2 | 12 |
| 28 | 56 | e47 | e22 | e18 | e15 | e16 | 929 | 159 | 75 | 21 | 5.6 | 9.0 |
| 29 | 58 | e46 | e21 | e18 | --- | e17 | 674 | 190 | 60 | 19 | 6.8 | 6.7 |
| 30 | 60 | e45 | e21 | e18 | --- | e19 | 467 | 232 | 48 | 18 | 11 | 4.8 |
| 31 | 63 | --- | e21 | e18 | --- | e25 | --- | 235 | --- | 16 | 7.5 | --- |
| TOTAL | 1108 | 5827 | 910 | 574 | 455 | 495 | 37131 | 5176 | 6757 | 831.8 | 203.6 | 299.8 |
| MEAN | 35.7 | 194 | 29.4 | 18.5 | 16.2 | 16.0 | 1238 | 167 | 225 | 26.8 | 6.57 | 9.99 |
| MAX | 63 | 627 | 44 | 21 | 18 | 25 | 3870 | 327 | 681 | 102 | 15 | 18 |
| MIN | 24 | 45 | 21 | 18 | 15 | 15 | 70 | 56 | 48 | 7.1 | 3.7 | 4.3 |
| AC-FT | 2200 | 11560 | 1800 | 1140 | 902 | 982 | 73650 | 10270 | 13400 | 1650 | 404 | 595 |
| CFSM | .08 | .43 | .06 | .04 | .04 | .04 | 2.73 | .37 | .50 | .06 | .01 | .02 |
| IN. | .09 | .48 | .07 | .05 | .04 | .04 | 3.04 | .42 | .55 | .07 | .02 | .02 |

05061500 SOUTH BRANCH BUFFALO RIVER AT SABIN, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2001, BY WATER YEAR (WY)

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 19.1 | 21.1 | 7.57 | 2.56 | 6.71 | 111 | 295 | 92.9 | 98.8 | 83.7 | 11.9 | 17.1 |
| MAX | 108 | 194 | 66.8 | 18.5 | 205 | 581 | 1683 | 580 | 1068 | 1112 | 152 | 186 |
| (WY) | 1999 | 2001 | 1999 | 2001 | 1998 | 1966 | 1997 | 1962 | 1962 | 1975 | 1993 | 1999 |
| MIN | .023 | 2.05 | .006 | .000 | .000 | .000 | 27.9 | 8.28 | 1.30 | .000 | .000 | .000 |
| (WY) | 1977 | 1977 | 1961 | 1946 | 1946 | 1951 | 1973 | 1980 | 1976 | 1988 | 1976 | 1976 |

| SUMMARY STATISTICS | FOR 2000 CALENDAR YEAR | FOR 2001 WATER YEAR | WATER YEARS 1945 - 2001 |
|--------------------------|------------------------|---------------------|-------------------------|
| ANNUAL TOTAL | 35707.0 | 59768.2 | |
| ANNUAL MEAN | 97.6 | 164 | 64.7a |
| HIGHEST ANNUAL MEAN | | | 198 |
| LOWEST ANNUAL MEAN | | | 12.2 |
| HIGHEST DAILY MEAN | 634 | 3870 | 8200 |
| LOWEST DAILY MEAN | 1.6 | 3.7 | .00b |
| ANNUAL SEVEN-DAY MINIMUM | 2.3 | 4.1 | .00 |
| MAXIMUM PEAK FLOW | | 4030 | 8500 |
| MAXIMUM PEAK STAGE | | 16.67 | 19.90 |
| INSTANTANEOUS LOW FLOW | | 3.0 | |
| ANNUAL RUNOFF (AC-FT) | 70820 | 118600 | 46900 |
| ANNUAL RUNOFF (CFSM) | .21 | .36 | .14 |
| ANNUAL RUNOFF (INCHES) | 2.93 | 4.90 | 1.94 |
| 10 PERCENT EXCEEDS | 273 | 350 | 121 |
| 50 PERCENT EXCEEDS | 44 | 24 | 8.5 |
| 90 PERCENT EXCEEDS | 11 | 7.4 | .09 |

a Median of annual mean discharges is 50 ft³/s.
 b Many days, several years.
 e Estimated.

