

## 05061500 SOUTH BRANCH BUFFALO RIVER AT SABIN, MN

LOCATION--Lat 46°46'20", long 96°37'40", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 good except those for estimated daily discharges, which are poor.

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     | 75    | 891    | e42   | e14  | e15   | e23   | 625    | 57    | 147    | 385    | 26     | 603   |
| 2     | 62    | 892    | e40   | e14  | e15   | e23   | 529    | 56    | 114    | 627    | 26     | 449   |
| 3     | 53    | 771    | e39   | e14  | e16   | e23   | 416    | 54    | 93     | 827    | 23     | 267   |
| 4     | 47    | 613    | e38   | e13  | e16   | e23   | 325    | 52    | 121    | 791    | 19     | 167   |
| 5     | 41    | 461    | e37   | e13  | e16   | e24   | 265    | 49    | 159    | 671    | 18     | 191   |
| 6     | 41    | 327    | e36   | e13  | e16   | e25   | 235    | 46    | 183    | 486    | 17     | 218   |
| 7     | 40    | 241    | e34   | e13  | e17   | e26   | 217    | 45    | 296    | 304    | 15     | 223   |
| 8     | 39    | 195    | e33   | e13  | e17   | e27   | 198    | 44    | 394    | 216    | 13     | 258   |
| 9     | 36    | 161    | e32   | e13  | e17   | e28   | 178    | 52    | 446    | 177    | 17     | 263   |
| 10    | 36    | 136    | e30   | e13  | e16   | e29   | 160    | 61    | 536    | 145    | 23     | 225   |
| 11    | 34    | 120    | e29   | e13  | e17   | e30   | 163    | 74    | 707    | 115    | 39     | 177   |
| 12    | 32    | 105    | e27   | e13  | e18   | e31   | 224    | 92    | 807    | 89     | 51     | 132   |
| 13    | 32    | 93     | e26   | e13  | e18   | e30   | 388    | 94    | 850    | 71     | 49     | 94    |
| 14    | 33    | 86     | e24   | e13  | e19   | e30   | 491    | 100   | 1,070  | 57     | 40     | 74    |
| 15    | 35    | 83     | e23   | e13  | e20   | e29   | 518    | 132   | 1,280  | 46     | 29     | 67    |
| 16    | 38    | 78     | e22   | e13  | e20   | e28   | 462    | 193   | 1,440  | 38     | 19     | 61    |
| 17    | 43    | 76     | e21   | e12  | e20   | e29   | 345    | 202   | 1,360  | 33     | 16     | 51    |
| 18    | 49    | 76     | e20   | e12  | e20   | e29   | 249    | 171   | 1,100  | 29     | 37     | 46    |
| 19    | 52    | 75     | e20   | e12  | e20   | e30   | 201    | 142   | 843    | 24     | 121    | 43    |
| 20    | 52    | 72     | e19   | e12  | e20   | e32   | 173    | 122   | 627    | 20     | 210    | 46    |
| 21    | 55    | 72     | e18   | e12  | e21   | e37   | 157    | 106   | 403    | 19     | 280    | 41    |
| 22    | 57    | e70    | e16   | e13  | e21   | e43   | 135    | 88    | 235    | 16     | 338    | 38    |
| 23    | 69    | e67    | e16   | e13  | e22   | e62   | 117    | 78    | 156    | 16     | 383    | 34    |
| 24    | 188   | e58    | e15   | e13  | e22   | e90   | 103    | 68    | 113    | 15     | 349    | 33    |
| 25    | 386   | e63    | e15   | e13  | e23   | e140  | 89     | 60    | 84     | 17     | 252    | 32    |
| 26    | 487   | e59    | e15   | e14  | e23   | e190  | 80     | 64    | 67     | 21     | 323    | 38    |
| 27    | 550   | e54    | e15   | e14  | e23   | e350  | 73     | 145   | 88     | 26     | 455    | 49    |
| 28    | 544   | e49    | e15   | e14  | e23   | 658   | 67     | 232   | 196    | 29     | 670    | 54    |
| 29    | 470   | e46    | e15   | e14  | ---   | 763   | 63     | 238   | 186    | 29     | 918    | 54    |
| 30    | 570   | e44    | e14   | e14  | ---   | 804   | 59     | 209   | 216    | 27     | 891    | 46    |
| 31    | 746   | ---    | e14   | e15  | ---   | 708   | ---    | 181   | ---    | 28     | 750    | ---   |
| TOTAL | 4,992 | 6,134  | 760   | 408  | 531   | 4,394 | 7,305  | 3,307 | 14,317 | 5,394  | 6,417  | 4,074 |
| MEAN  | 161   | 204    | 24.5  | 13.2 | 19.0  | 142   | 244    | 107   | 477    | 174    | 207    | 136   |
| MAX   | 746   | 892    | 42    | 15   | 23    | 804   | 625    | 238   | 1,440  | 827    | 918    | 603   |
| MIN   | 32    | 44     | 14    | 12   | 15    | 23    | 59     | 44    | 67     | 15     | 13     | 32    |
| AC-FT | 9,900 | 12,170 | 1,510 | 809  | 1,050 | 8,720 | 14,490 | 6,560 | 28,400 | 10,700 | 12,730 | 8,080 |
| CFSM  | 0.35  | 0.45   | 0.05  | 0.03 | 0.04  | 0.31  | 0.54   | 0.23  | 1.05   | 0.38   | 0.46   | 0.30  |
| IN.   | 0.41  | 0.50   | 0.06  | 0.03 | 0.04  | 0.36  | 0.60   | 0.27  | 1.17   | 0.44   | 0.53   | 0.33  |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 22.1   | 24.9   | 8.53   | 3.21   | 7.12   | 111    | 283    | 95.2   | 110    | 87.5   | 15.8   | 23.3   |
| MAX  | 161    | 204    | 66.8   | 18.5   | 205    | 581    | 1,683  | 580    | 1,068  | 1,112  | 207    | 266    |
| (WY) | (2005) | (2005) | (1999) | (2001) | (1998) | (1966) | (1997) | (1962) | (1962) | (1975) | (2005) | (2004) |
| MIN  | 0.02   | 2.05   | 0.01   | 0.00   | 0.00   | 0.00   | 27.9   | 8.28   | 1.30   | 0.00   | 0.00   | 0.00   |
| (WY) | (1977) | (1977) | (1961) | (1946) | (1946) | (1951) | (1973) | (1980) | (1976) | (1988) | (1976) | (1976) |

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| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |                  | WATER YEARS 1945 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|------------------|-------------------------|--------------|
| ANNUAL TOTAL             | 42,438.7               |        | 58,033              |                  |                         |              |
| ANNUAL MEAN              | 116                    |        | 159                 |                  | a66.9                   |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |                  | 198                     | 1962         |
| LOWEST ANNUAL MEAN       |                        |        |                     |                  | 12.2                    | 1977         |
| HIGHEST DAILY MEAN       | 1,110                  | Jun 2  | 1,440               | Jun 16           | 8,200                   | Jul 1, 1975  |
| LOWEST DAILY MEAN        | 6.7                    | Jan 29 | 12                  | Jan 17-21, Aug 8 | c0.00                   | Dec 13, 1945 |
| ANNUAL SEVEN-DAY MINIMUM | 6.7                    | Feb 8  | 12                  | Jan 15           | 0.00                    | Dec 13, 1945 |
| MAXIMUM PEAK FLOW        |                        |        | 1,470               | Jun 16           | 8,500                   | Jul 2, 1975  |
| MAXIMUM PEAK STAGE       |                        |        | 13.60               | Jun 16           | 19.90                   | Jul 2, 1975  |
| INSTANTANEOUS LOW FLOW   |                        |        | b12                 | Jan 17, Aug 8    | c0.00                   | Dec 13, 1945 |
| ANNUAL RUNOFF (AC-FT)    | 84,180                 |        | 115,100             |                  | 48,460                  |              |
| ANNUAL RUNOFF (CFSM)     | 0.255                  |        | 0.350               |                  | 0.147                   |              |
| ANNUAL RUNOFF (INCHES)   | 3.48                   |        | 4.76                |                  | 2.00                    |              |
| 10 PERCENT EXCEEDS       | 346                    |        | 489                 |                  | 125                     |              |
| 50 PERCENT EXCEEDS       | 43                     |        | 52                  |                  | 9.3                     |              |
| 90 PERCENT EXCEEDS       | 7.7                    |        | 15                  |                  | 0.10                    |              |

- a Median of annual mean discharges is 54 ft<sup>3</sup>/s.
- b Estimated daily discharge, Jan. 17-21 (backwater from ice).
- c Many days, several years.
- e Estimated.

