

## MINNESOTA RIVER BASIN--Continued

05292000 MINNESOTA RIVER AT ORTONVILLE, MN

LOCATION.--Lat 45°17'44", long 96°26'38", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 16, T.121 N., R.46 W., Big Stone County, Hydrologic Unit 07020001, on left bank 400 ft downstream from bridge on U.S. Highway 12 and 1,300 ft downstream from dam at outlet of Big Stone Lake, at Ortonville.

DRAINAGE AREA.--1,160 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--February 1938 to current year.

REVISED RECORDS.--WSP 895: 1939. WSP 1508: 1942 (yearly mean).

GAGE.--Water-stage recorder. Datum of gage is 956.38 ft above sea level. Prior to Mar. 31, 1939, nonrecording gage on downstream side of dam 1,300 ft upstream at datum 1.31 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Affected by regulation of Big Stone Lake.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

| DAY   | OCT  | NOV   | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN   | JUL  | AUG  | SEP  |
|-------|------|-------|-------|------|------|-------|-------|-------|-------|------|------|------|
| 1     | 26   | 211   | 211   | 120  | 74   | 297   | 139   | 147   | 54    | 48   | 61   | 35   |
| 2     | 26   | 209   | 211   | 136  | 73   | 333   | 142   | 147   | 54    | 52   | 62   | 36   |
| 3     | 24   | 209   | 211   | 134  | 75   | 244   | 142   | 120   | 50    | 52   | 62   | 37   |
| 4     | 21   | 209   | 213   | 124  | 72   | 240   | 142   | 100   | 51    | 52   | 62   | 39   |
| 5     | 19   | 209   | 215   | 120  | 71   | 243   | 142   | 103   | 52    | 52   | 61   | 34   |
| 6     | 18   | 205   | 213   | 120  | 72   | 238   | 195   | 103   | 53    | 50   | 60   | 33   |
| 7     | 18   | 197   | 211   | 115  | 67   | 220   | 254   | 107   | 56    | 50   | 60   | 47   |
| 8     | 16   | 185   | 211   | 110  | 71   | 205   | 379   | 104   | 100   | 52   | 58   | 58   |
| 9     | 14   | 140   | 213   | 107  | 74   | 230   | 467   | 128   | 310   | 50   | 58   | 57   |
| 10    | 15   | 228   | 211   | 106  | e62  | 225   | 460   | 185   | 420   | 46   | 52   | 55   |
| 11    | 16   | 209   | 209   | 103  | e58  | 210   | 472   | 203   | 412   | 45   | 39   | 55   |
| 12    | 16   | 197   | 209   | 103  | e56  | 198   | 466   | 244   | 409   | 45   | 40   | 55   |
| 13    | 14   | 196   | 209   | 102  | 115  | 193   | 458   | 270   | 408   | 42   | 42   | 55   |
| 14    | 14   | 211   | 209   | 100  | 166  | 184   | 468   | 361   | 398   | 42   | 41   | 54   |
| 15    | 14   | 186   | 211   | 97   | 199  | 190   | 472   | 445   | 394   | 44   | 40   | 54   |
| 16    | 16   | 205   | 211   | 90   | 182  | 184   | 483   | 451   | 284   | 57   | 37   | 54   |
| 17    | 16   | 203   | 179   | 90   | 151  | 168   | 466   | 568   | 199   | 52   | 35   | 54   |
| 18    | 11   | 224   | e160  | 92   | 143  | 203   | 454   | 636   | 197   | 49   | 36   | 54   |
| 19    | 138  | 211   | e150  | 85   | 129  | 293   | 456   | 355   | 198   | 45   | 33   | 55   |
| 20    | 215  | 195   | e145  | 88   | 123  | 305   | 335   | 272   | 198   | 45   | 30   | 55   |
| 21    | 213  | 201   | e140  | 85   | 114  | 304   | 251   | 248   | 198   | 45   | 31   | 57   |
| 22    | 211  | 201   | e134  | 82   | 110  | 304   | 251   | 194   | 197   | 45   | 31   | 56   |
| 23    | 213  | 205   | e130  | 82   | 111  | 250   | 252   | 199   | 201   | 53   | 32   | 56   |
| 24    | 213  | 190   | e135  | 80   | 110  | 209   | 251   | 166   | 116   | 57   | 32   | 58   |
| 25    | 215  | 209   | e140  | 74   | 108  | 171   | 248   | 149   | 49    | 57   | 31   | 60   |
| 26    | 213  | 207   | 151   | 75   | 125  | 136   | 250   | 89    | 50    | 86   | 31   | 60   |
| 27    | 213  | 209   | 148   | 82   | 163  | 137   | 193   | 56    | 50    | 99   | 35   | 59   |
| 28    | 211  | 209   | 150   | 77   | 194  | 142   | 147   | 55    | 49    | 72   | 36   | 59   |
| 29    | 211  | 213   | 138   | 75   | ---  | 141   | 148   | 52    | 49    | 60   | 35   | 61   |
| 30    | 218  | 215   | 124   | 73   | ---  | 138   | 148   | 53    | 49    | 63   | 35   | 62   |
| 31    | 213  | ---   | 123   | 74   | ---  | 141   | ---   | 56    | ---   | 62   | 34   | ---  |
| TOTAL | 3011 | 6098  | 5525  | 3001 | 3068 | 6676  | 9131  | 6366  | 5305  | 1669 | 1332 | 1564 |
| MEAN  | 97.1 | 203   | 178   | 96.8 | 110  | 215   | 304   | 205   | 177   | 53.8 | 43.0 | 52.1 |
| MAX   | 218  | 228   | 215   | 136  | 199  | 333   | 483   | 636   | 420   | 99   | 62   | 62   |
| MIN   | 11   | 140   | 123   | 73   | 56   | 136   | 139   | 52    | 49    | 42   | 30   | 33   |
| AC-FT | 5970 | 12100 | 10960 | 5950 | 6090 | 13240 | 18110 | 12630 | 10520 | 3310 | 2640 | 3100 |
| CFSM  | .08  | .18   | .15   | .08  | .09  | .19   | .26   | .18   | .15   | .05  | .04  | .04  |
| IN.   | .10  | .20   | .18   | .10  | .10  | .21   | .29   | .20   | .17   | .05  | .04  | .05  |

e Estimated

05292000 MINNESOTA RIVER AT ORTONVILLE, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

|      | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 31.8 | 24.1 | 22.4 | 22.3 | 34.6 | 204  | 502  | 272  | 184  | 158  | 77.2 | 35.5 |
| MAX  | 441  | 269  | 194  | 164  | 273  | 1519 | 4109 | 887  | 1034 | 1781 | 1299 | 250  |
| (WY) | 1996 | 1996 | 1943 | 1943 | 1998 | 1994 | 1997 | 1986 | 1962 | 1993 | 1993 | 1942 |
| MIN  | .20  | .20  | .20  | .17  | .16  | 1.14 | 1.27 | .91  | 1.30 | 1.11 | .25  | .18  |
| (WY) | 1939 | 1939 | 1939 | 1940 | 1940 | 1941 | 1941 | 1941 | 1977 | 1977 | 1959 | 1988 |

| SUMMARY STATISTICS       | FOR 1998 CALENDAR YEAR | FOR 1999 WATER YEAR | WATER YEARS 1938 - 1999  |
|--------------------------|------------------------|---------------------|--------------------------|
| ANNUAL TOTAL             | 89135                  | 52746               |                          |
| ANNUAL MEAN              | 244                    | 145                 | 132                      |
| HIGHEST ANNUAL MEAN      |                        |                     | 514 <sup>a</sup> 1997    |
| LOWEST ANNUAL MEAN       |                        |                     | 2.39 1977                |
| HIGHEST DAILY MEAN       | 1880                   | Apr 9 636           | May 18 5010 Apr 10 1997  |
| LOWEST DAILY MEAN        | 11                     | Oct 18 11           | Oct 18 .00 Dec 13 1940   |
| ANNUAL SEVEN-DAY MINIMUM | 14                     | Oct 12 14           | Oct 12 .08 Sep 12 1988   |
| INSTANTANEOUS PEAK FLOW  |                        | 671                 | May 17 5070 Apr 10 1997  |
| INSTANTANEOUS PEAK STAGE |                        | 4.59                | May 17 12.92 Apr 13 1952 |
| INSTANTANEOUS LOW FLOW   |                        | 10 <sup>b</sup>     | Oct 19 .00 Dec 13 1940   |
| ANNUAL RUNOFF (AC-FT)    | 176800                 | 104600              | 95820                    |
| ANNUAL RUNOFF (CFSM)     | .21                    | .12                 | .11                      |
| ANNUAL RUNOFF (INCHES)   | 2.86                   | 1.69                | 1.55                     |
| 10 PERCENT EXCEEDS       | 733                    | 253                 | 350                      |
| 50 PERCENT EXCEEDS       | 149                    | 120                 | 21                       |
| 90 PERCENT EXCEEDS       | 26                     | 36                  | 1.1                      |

a Median of annual mean discharges is 94 ft<sup>3</sup>/s.  
 b Due in part to regulation.

