

## 05301000 MINNESOTA RIVER NEAR LAC QUI PARLE, MN

LOCATION.--Lat 45°01'17", long 95°52'05", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.24, T.118 N., R.42 W., Chippewa County, Hydrologic Unit 07020004, on left bank 200 ft downstream from highway bridge and dam, 2.4 mi northeast of city of Lac Qui Parle, and 3.5 mi west of city of Watson.

DRAINAGE AREA.--4,050 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--October 1942 to September 1994, October 1998 to present.

REVISED RECORDS.--WDR MN-91-2; 1979

GAGE.--Water-stage recorder. Datum of gage is 900.00 ft above sea level (NGVD or 1929, levels by U.S. Army Corps of Engineers). Prior to Nov. 10, 1944, at datum 0.20 ft. lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor. Part of flow from 2,050 mi<sup>2</sup>, of Chippewa River basin at most times diverted into Minnesota River above station. Some regulation by Big Stone Lake since Apr. 17, 1937, Lac qui Parle since Jan. 1938, Marsh Lake since Nov. 1, 1939, and Odessa Dam since May 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 1997 reached a discharge of approximately 43,000 ft<sup>3</sup>/s, combination of measured flow through dam and indirect computation of flow over dam; peak stage occurred Apr. 7, 1997 (from Corps of Engineers).

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     | 564    | 1,620  | 527    | 257    | 221    | 500    | 1,110  | 1,080  | 1,200   | 3,490   | 591    | 749    |
| 2     | 551    | 1,400  | 444    | 256    | 202    | 632    | 1,010  | 1,120  | 1,200   | 3,500   | 298    | 698    |
| 3     | 560    | 1,260  | 446    | 328    | 213    | 630    | 1,000  | 1,170  | 1,200   | 3,490   | 296    | 699    |
| 4     | 595    | 1,250  | 453    | 468    | 249    | 623    | 959    | 1,150  | 1,200   | 3,440   | 298    | 699    |
| 5     | 645    | 1,220  | 459    | 523    | 275    | 623    | 706    | 993    | 1,210   | 3,330   | 319    | 698    |
| 6     | 644    | 1,180  | 514    | 532    | 273    | 622    | 556    | 814    | 1,370   | 3,080   | 358    | 800    |
| 7     | 642    | 1,180  | 652    | 520    | 276    | 611    | 695    | 876    | 1,550   | 2,850   | 357    | 914    |
| 8     | 646    | 1,180  | 828    | 466    | 302    | 616    | 919    | 877    | 1,700   | 2,710   | 451    | 807    |
| 9     | 645    | 1,170  | 898    | 456    | 319    | 654    | 956    | 1,010  | 2,330   | 2,580   | 590    | 691    |
| 10    | 644    | 1,170  | 862    | 359    | 319    | 696    | 953    | 1,220  | 2,490   | 2,530   | 506    | 563    |
| 11    | 644    | 1,170  | 812    | 216    | 318    | 696    | 984    | 1,270  | 2,520   | 2,520   | 384    | 380    |
| 12    | 643    | 1,070  | e794   | 156    | 318    | 696    | 1,290  | 1,230  | 2,540   | 2,570   | 379    | 256    |
| 13    | 661    | 948    | e776   | e156   | 318    | 697    | 2,000  | 1,240  | 2,500   | 2,520   | 378    | 356    |
| 14    | 650    | 893    | e744   | e158   | 354    | 695    | 2,580  | 1,380  | 2,570   | 2,510   | 378    | 515    |
| 15    | 639    | 851    | e678   | 161    | 458    | 696    | 2,740  | 1,370  | 2,590   | 2,540   | 377    | 595    |
| 16    | 591    | 802    | 678    | 160    | 482    | 693    | 2,690  | 1,510  | 2,620   | 2,600   | 377    | 599    |
| 17    | 562    | 803    | 696    | 161    | 481    | 693    | 2,410  | 1,740  | 3,110   | 2,510   | 298    | 601    |
| 18    | 538    | 843    | e678   | 184    | 451    | 629    | 2,090  | 1,840  | 3,440   | 2,490   | 261    | 601    |
| 19    | 509    | 912    | e705   | 202    | 427    | 516    | 1,850  | 1,950  | 3,470   | 2,470   | 275    | 560    |
| 20    | 475    | 969    | e757   | 202    | 426    | 515    | 1,920  | 1,930  | 3,520   | 2,400   | 276    | 505    |
| 21    | 413    | 965    | e840   | 204    | 425    | 517    | 1,910  | 1,870  | 3,530   | 2,080   | 276    | 504    |
| 22    | 372    | 964    | e809   | e207   | 424    | 514    | 1,870  | 1,490  | 3,510   | 1,580   | 301    | 503    |
| 23    | 396    | e977   | e734   | 215    | 426    | 515    | 1,760  | 1,180  | 3,530   | 1,000   | 318    | 451    |
| 24    | 384    | 932    | e640   | 272    | 423    | 524    | 1,670  | 1,100  | 3,550   | 967     | 317    | 380    |
| 25    | 503    | 883    | 577    | 400    | 422    | 607    | 1,480  | 1,170  | 3,540   | 1,020   | 316    | 381    |
| 26    | 598    | 878    | 445    | 380    | 428    | 653    | 1,210  | 1,490  | 3,510   | 1,230   | 601    | 383    |
| 27    | 618    | 883    | 421    | 357    | 419    | 655    | 1,140  | 1,790  | 3,490   | 1,410   | 1,100  | 386    |
| 28    | 947    | 873    | 318    | 325    | 416    | 776    | 1,130  | 1,780  | 3,490   | 1,370   | 1,170  | 391    |
| 29    | 1,660  | 813    | 214    | 294    | ---    | 1,000  | 1,110  | 1,700  | 3,560   | 1,210   | 1,330  | 391    |
| 30    | 1,810  | 626    | 234    | 279    | ---    | 1,090  | 1,070  | 1,440  | 3,570   | 1,080   | 1,260  | 391    |
| 31    | 1,740  | ---    | 252    | 250    | ---    | 1,160  | ---    | 1,260  | ---     | 936     | 879    | ---    |
| TOTAL | 21,489 | 30,685 | 18,885 | 9,104  | 10,065 | 20,744 | 43,768 | 42,040 | 79,610  | 70,013  | 15,315 | 16,447 |
| MEAN  | 693    | 1,023  | e609   | 294    | 359    | 669    | 1,459  | 1,356  | 2,654   | 2,258   | 494    | 548    |
| MAX   | 1,810  | 1,620  | 898    | 532    | 482    | 1,160  | 2,740  | 1,950  | 3,570   | 3,500   | 1,330  | 914    |
| MIN   | 372    | 626    | 214    | 156    | 202    | 500    | 556    | 814    | 1,200   | 936     | 261    | 256    |
| AC-FT | 42,620 | 60,860 | 37,460 | 18,060 | 19,960 | 41,150 | 86,810 | 83,390 | 157,900 | 138,900 | 30,380 | 32,620 |
| CFSM  | 0.17   | 0.25   | 0.15   | 0.07   | 0.09   | 0.17   | 0.36   | 0.33   | 0.66    | 0.56    | 0.12   | 0.14   |
| IN.   | 0.20   | 0.28   | 0.17   | 0.08   | 0.09   | 0.19   | 0.40   | 0.39   | 0.73    | 0.64    | 0.14   | 0.15   |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2005, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 277    | 298    | 237    | 159    | 193    | 834    | 2,659  | 1,428  | 1,192  | 1,007  | 523    | 267    |
| MAX  | 2,924  | 2,327  | 1,204  | 574    | 644    | 4,599  | 14,580 | 5,837  | 4,229  | 7,024  | 6,012  | 2,402  |
| (WY) | (1987) | (1985) | (1985) | (1987) | (1999) | (1994) | (2001) | (2001) | (1984) | (1993) | (1993) | (1986) |
| MIN  | 4.16   | 0.46   | 0.17   | 0.19   | 0.09   | 46.5   | 151    | 122    | 29.5   | 14.7   | 11.8   | 5.59   |
| (WY) | (1977) | (1977) | (1977) | (1977) | (1977) | (1956) | (1961) | (1959) | (1988) | (1988) | (1974) | (1967) |

05301000 MINNESOTA RIVER NEAR LAC QUI PARLE, MN—Continued

| SUMMARY STATISTICS       | FOR 2004 CALENDAR YEAR |        | FOR 2005 WATER YEAR |        | WATER YEARS 1943 - 2005 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 182,990                |        | 378,165             |        |                         |              |
| ANNUAL MEAN              | 500                    |        | 1,036               |        | 757                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 2,507                   | 1986         |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 75.7                    | 1959         |
| HIGHEST DAILY MEAN       | 2,360                  | Jun 16 | 3,570               | Jun 30 | 29,800                  | Apr 14, 2001 |
| LOWEST DAILY MEAN        | 46                     | Sep 14 | 156                 | Jan 12 | a0.00                   | Oct 19, 1951 |
| ANNUAL SEVEN-DAY MINIMUM | 46                     | Sep 14 | 162                 | Jan 12 | 0.00                    | Oct 19, 1951 |
| MAXIMUM PEAK FLOW        |                        |        | b3,610              | Jun 29 | 30,100                  | Apr 14, 2001 |
| MAXIMUM PEAK STAGE       |                        |        | b31.42              | Jun 29 | 40.05                   | Apr 14, 2001 |
| INSTANTANEOUS LOW FLOW   |                        |        | c151                | Jan 13 | a0.00                   | Oct 19, 1951 |
| ANNUAL RUNOFF (AC-FT)    | 363,000                |        | 750,100             |        | 548,100                 |              |
| ANNUAL RUNOFF (CFSM)     | 0.123                  |        | 0.256               |        | 0.187                   |              |
| ANNUAL RUNOFF (INCHES)   | 1.68                   |        | 3.47                |        | 2.54                    |              |
| 10 PERCENT EXCEEDS       | 978                    |        | 2,520               |        | 1,810                   |              |
| 50 PERCENT EXCEEDS       | 418                    |        | 697                 |        | 240                     |              |
| 90 PERCENT EXCEEDS       | 99                     |        | 298                 |        | 28                      |              |

- a Many days, several years.
- b Due in part to regulation.
- c Minimum observed, due in part to regulation and freezeup.
- e Estimated.

