

## 05050000 BOIS DE SIOUX RIVER NEAR WHITE ROCK, SD

LOCATION.--Lat 45°51'45", long 96°34'25", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 27, T.128 N., R.47 W., Roberts County, Hydrologic Unit 09020101, on Sisseton Indian Reservation, on left bank at Big Slough Outlet, 300 ft downstream from White Rock Dam, 4 mi south of White Rock and 5 mi northwest of Wheaton, MN.

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

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 960.00 ft. above sea level, (adjustment of 1912, levels by U.S. Army Corps of Engineers). Prior to Jan. 14, 1943, nonrecording gage at same site at datum 0.11 ft lower. Jan. 15, 1943 to Sept. 30, 1963, water-stage recorder at same site at datum 0.11 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lake Traverse-Boise de Sioux Flood Control and Water Conservation project.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR      | APR     | MAY   | JUN     | JUL      | AUG      | SEP   |
|-------|-------|-------|-------|-------|-------|----------|---------|-------|---------|----------|----------|-------|
| 1     | 1.8   | 4.1   | e3.1  | e0.44 | e0.00 | e0.00    | 98      | 105   | 33      | 625      | e77      | 0.12  |
| 2     | 1.3   | 3.9   | e2.7  | e0.43 | e0.00 | e0.00    | 51      | 118   | 28      | 695      | e78      | 0.13  |
| 3     | 1.2   | 3.7   | e2.3  | e0.42 | e0.00 | e0.00    | 39      | 142   | 30      | 735      | e79      | 0.11  |
| 4     | 2.5   | 3.9   | e1.9  | e0.41 | e0.00 | e0.00    | 75      | 128   | 23      | 773      | 80       | <0.10 |
| 5     | 5.5   | 3.7   | e1.6  | e0.40 | e0.00 | e0.00    | 103     | 85    | 16      | 762      | 79       | <0.10 |
| 6     | 7.5   | 3.7   | e1.3  | e0.38 | e0.00 | e0.00    | 109     | 134   | 9.1     | 744      | 79       | <0.10 |
| 7     | 23    | 4.1   | e1.1  | e0.37 | e0.00 | e0.00    | 58      | 138   | 15      | 757      | 78       | <0.10 |
| 8     | 11    | 4.0   | e0.94 | e0.36 | e0.00 | e0.00    | 77      | 137   | 9.9     | 759      | 107      | <0.10 |
| 9     | 6.3   | 3.9   | e0.84 | e0.33 | e0.00 | e0.00    | 100     | 122   | 15      | 742      | 126      | 0.00  |
| 10    | 5.8   | 4.3   | e0.79 | e0.28 | e0.00 | e0.00    | 41      | 143   | 10      | 745      | 126      | <0.10 |
| 11    | 9.7   | 4.5   | e0.77 | e0.24 | e0.00 | e0.00    | 26      | 89    | 12      | 743      | 126      | 0.00  |
| 12    | e6.8  | 4.1   | e0.76 | e0.21 | e0.00 | e0.00    | 32      | 164   | 11      | 712      | 124      | <0.10 |
| 13    | e5.0  | 3.8   | e0.76 | e0.20 | e0.00 | e8.2     | 75      | 167   | 6.4     | 681      | 69       | <0.10 |
| 14    | e4.0  | 4.6   | e0.77 | e0.18 | e0.00 | e50      | 41      | 181   | 5.9     | 653      | 40       | <0.10 |
| 15    | e3.0  | 3.6   | e0.78 | e0.17 | e0.00 | e130     | 6.5     | 194   | 5.9     | 639      | 17       | <0.10 |
| 16    | 3.2   | 4.4   | e0.79 | e0.15 | e0.00 | e150     | 18      | 192   | 5.3     | 606      | 5.5      | <0.10 |
| 17    | 3.4   | 3.8   | e0.76 | e0.14 | e0.00 | 135      | 37      | 175   | 8.6     | 553      | 4.8      | 0.00  |
| 18    | 4.2   | 4.2   | e0.72 | e0.13 | e0.00 | 144      | 57      | 176   | 5.1     | 336      | 2.0      | <0.10 |
| 19    | 3.7   | 4.4   | e0.68 | e0.12 | e0.00 | 169      | 59      | 87    | 4.8     | 174      | 0.69     | 0.00  |
| 20    | 3.8   | 4.4   | e0.63 | e0.11 | e0.00 | 143      | 52      | 116   | 12      | 174      | 0.56     | 0.00  |
| 21    | 3.8   | 4.3   | e0.58 | e0.10 | e0.00 | 148      | 47      | 149   | 21      | 174      | 0.54     | 0.00  |
| 22    | 3.7   | 5.5   | e0.54 | e0.10 | e0.00 | 166      | 58      | 136   | 22      | 90       | 0.49     | 0.00  |
| 23    | 3.7   | 4.0   | e0.50 | e0.10 | e0.00 | 159      | 87      | 124   | 43      | 5.7      | 0.35     | 0.00  |
| 24    | 3.6   | e3.8  | e0.47 | e0.00 | e0.00 | 176      | 84      | 123   | 122     | 13       | 0.27     | 0.00  |
| 25    | 3.8   | e3.7  | e0.45 | e0.00 | e0.00 | 148      | 103     | 120   | 314     | 8.3      | 0.32     | 0.00  |
| 26    | 3.8   | e3.7  | e0.45 | e0.00 | e0.00 | 140      | 135     | 117   | 132     | 11       | 0.38     | 0.00  |
| 27    | 3.8   | e3.6  | e0.46 | e0.00 | e0.00 | 78       | 147     | 126   | 62      | 15       | 0.38     | 0.00  |
| 28    | 4.4   | e3.7  | e0.47 | e0.00 | e0.00 | 35       | 119     | 84    | 228     | 16       | 0.29     | 0.00  |
| 29    | 4.0   | e3.9  | e0.47 | e0.00 | ---   | 72       | 120     | 74    | 427     | 56       | 0.25     | 0.00  |
| 30    | 4.0   | e3.5  | e0.46 | e0.00 | ---   | 146      | 121     | 39    | 539     | 75       | 0.25     | 0.00  |
| 31    | 4.1   | ---   | e0.45 | e0.00 | ---   | 158      | ---     | 33    | ---     | e76      | 0.16     | ---   |
| TOTAL | 155.4 | 120.8 | 29.29 | 5.77  | 0.00  | 2,355.20 | 2,175.5 | 3,918 | 2,176.0 | 13,148.0 | 1,302.23 | 1.56  |
| MEAN  | 5.01  | 4.03  | 0.94  | 0.19  | 0.000 | 76.0     | 72.5    | 126   | 72.5    | 424      | 42.0     | 0.052 |
| MAX   | 23    | 5.5   | 3.1   | 0.44  | 0.00  | 176      | 147     | 194   | 539     | 773      | 126      | 0.13  |
| MIN   | 1.2   | 3.5   | 0.45  | 0.00  | 0.00  | 0.00     | 6.5     | 33    | 4.8     | 5.7      | 0.16     | 0.00  |
| AC-FT | 308   | 240   | 58    | 11    | 0.00  | 4,670    | 4,320   | 7,770 | 4,320   | 26,080   | 2,580    | 3.1   |
| CFSM  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.07     | 0.06    | 0.11  | 0.06    | 0.37     | 0.04     | 0.00  |
| IN.   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.08     | 0.07    | 0.13  | 0.07    | 0.42     | 0.04     | 0.00  |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

|      |        |        |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 28.2   | 16.1   | 10.2   | 3.38   | 7.43   | 73.2   | 327    | 314    | 251    | 179    | 71.7   | 34.7   |
| MAX  | 535    | 307    | 207    | 42.4   | 148    | 628    | 3,814  | 1,445  | 1,103  | 1,035  | 1,182  | 1,062  |
| (WY) | (1994) | (1996) | (1999) | (1997) | (1997) | (1996) | (1997) | (1997) | (1986) | (1962) | (1993) | (1993) |
| MIN  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.23   | 0.010  | 0.000  | 0.000  | 0.000  |
| (WY) | (1942) | (1942) | (1942) | (1942) | (1942) | (1942) | (1942) | (1977) | (1977) | (1961) | (1970) | (1960) |

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| SUMMARY STATISTICS       | FOR 2002 CALENDAR YEAR |        | FOR 2003 WATER YEAR |        | WATER YEARS 1942 - 2003 |              |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL             | 31,859.00              |        | 25,387.75           |        | a110                    |              |
| ANNUAL MEAN              | 87.3                   |        | 69.6                |        | 536                     |              |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 1997                    |              |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 0.38                    |              |
| HIGHEST DAILY MEAN       | 554                    | Jul 18 | 773                 | Jul 4  | 7,710                   | Apr 16, 1997 |
| LOWEST DAILY MEAN        | 0.45                   | Dec 25 | b0.00               | Jan 24 | c0.00                   | Oct 1, 1941  |
| ANNUAL SEVEN-DAY MINIMUM | 0.46                   | Dec 25 | 0.00                | Jan 24 | 0.00                    | Oct 1, 1941  |
| MAXIMUM PEAK FLOW        |                        |        | 792                 | Jul 4  | d8,750                  | Apr 20, 1997 |
| MAXIMUM PEAK STAGE       |                        |        | 8.45                | Jul 4  | 16.90                   | Apr 20, 1997 |
| INSTANTANEOUS LOW FLOW   |                        |        | 0.00                | Jan 24 |                         |              |
| ANNUAL RUNOFF (AC-FT)    | 63,190                 |        | 50,360              |        | 79,630                  |              |
| ANNUAL RUNOFF (CFSM)     | 0.075                  |        | 0.060               |        | 0.095                   |              |
| ANNUAL RUNOFF (INCHES)   | 1.02                   |        | 0.81                |        | 1.29                    |              |
| 10 PERCENT EXCEEDS       | 276                    |        | 158                 |        | 357                     |              |
| 50 PERCENT EXCEEDS       | 8.0                    |        | 4.0                 |        | 3.4                     |              |
| 90 PERCENT EXCEEDS       | 1.5                    |        | 0.00                |        | 0.00                    |              |

- a Median of annual mean discharges is 64 ft<sup>3</sup>/s.
- b Many days.
- c Many days, several years; result of regulation.
- d Estimated, from observed readings made under non-ideal conditions. Some evidence that peak occurred Apr. 16 at 7,930 ft<sup>3</sup>/s.
- e Estimated.
- < Actual value is known to be less than the value shown

