

## 05316580 MINNESOTA RIVER AT MORTON, MN

LOCATION.--Lat 44°32'46", long 94°59'46", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 36, T.113 N., R.35 W., Redwood County, Hydrologic Unit 07020007, on right bank 10 ft downstream from highway bridge,  $\frac{1}{2}$  mi southwest of town of Morton, and 203 mi upstream from mouth.

DRAINAGE AREA.--8,970 mi<sup>2</sup>.

PERIOD OF RECORD.--October 2000 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor. Some regulation from Big Stone Lake, Marsh Lake, and Lac qui Parle.

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	e402	869	e602	e486	e349	e476	1,970	2,370	2,360	2,870	1,270	e349
2	e396	898	e605	e484	e394	e534	1,650	2,310	2,300	2,780	1,300	e320
3	e354	886	e586	e484	e430	e549	1,280	2,250	2,240	2,820	1,270	e302
4	e500	852	e516	e492	e447	e553	1,110	2,200	2,140	e2,810	1,220	e286
5	669	858	e497	e494	e450	e559	1,010	2,240	1,910	e2,640	1,200	e258
6	854	856	e465	e470	e450	e597	960	2,390	1,730	e2,620	1,080	e229
7	947	858	e439	e475	e439	e665	968	2,370	1,810	e2,750	930	e219
8	924	806	e433	e472	e427	e709	1,060	2,250	2,200	e2,880	779	e215
9	903	810	e426	e475	e419	e729	1,020	2,270	2,540	2,790	724	e213
10	1,170	819	e423	e451	e406	e729	949	2,500	2,580	2,780	723	e221
11	1,240	836	e422	e429	e393	e701	961	2,930	2,560	2,780	728	e317
12	1,290	828	e422	e415	e380	e668	1,000	3,330	2,550	2,820	716	e385
13	1,310	789	e422	e407	e375	e665	922	3,580	2,470	2,750	718	e353
14	1,290	780	e423	e402	e361	e672	853	3,740	2,370	2,710	799	e305
15	1,300	785	e425	e398	e345	e1,210	853	3,840	2,190	2,680	755	e266
16	1,270	776	e422	e394	e329	e2,150	971	4,030	1,980	2,700	716	e246
17	1,200	764	e431	e388	e312	e2,780	1,590	4,120	1,870	2,750	e696	e232
18	859	720	e455	e376	e300	e3,000	1,980	4,080	1,740	2,680	e676	e219
19	749	774	e492	e362	e294	e3,070	2,380	3,980	1,560	2,560	e638	e209
20	783	765	e530	e339	e292	e2,940	2,990	4,010	1,420	2,330	e642	e201
21	922	711	e557	e321	e297	e2,950	3,440	4,330	1,280	2,210	e635	e180
22	906	698	e574	e316	e296	e3,030	3,630	4,200	1,150	2,210	e607	e204
23	872	674	e589	e312	e294	2,990	3,820	3,890	1,010	2,090	e573	e192
24	882	664	e580	e308	e301	2,850	3,780	3,490	946	2,030	e532	e171
25	875	e654	e562	e306	e317	2,740	3,620	3,200	1,100	1,820	e523	e179
26	864	e635	e553	e306	e335	2,790	3,230	3,090	2,410	1,680	e514	e162
27	860	e621	e551	e306	e386	2,560	2,930	2,980	3,790	1,660	e497	e163
28	885	e659	e538	e305	e432	2,440	2,760	2,910	3,810	1,600	e477	e164
29	843	e721	e506	e305	---	2,140	2,640	2,780	3,390	1,530	e414	e144
30	876	e611	e492	e309	---	1,980	2,490	2,630	3,090	1,440	e382	e145
31	868	---	e488	e326	---	2,070	---	2,460	---	1,310	e367	---
TOTAL	28,063	22,977	15,426	12,113	10,250	52,496	58,817	96,750	64,496	74,080	23,101	7,049
MEAN	905	766	498	391	366	1,693	1,961	3,121	2,150	2,390	745	235
MAX	1,310	898	605	494	450	3,070	3,820	4,330	3,810	2,880	1,300	385
MIN	354	611	422	305	292	476	853	2,200	946	1,310	367	144
AC-FT	55,660	45,570	30,600	24,030	20,330	104,100	116,700	191,900	127,900	146,900	45,820	13,980
CFSM	0.10	0.09	0.06	0.04	0.04	0.19	0.22	0.35	0.24	0.27	0.08	0.03
IN.	0.12	0.10	0.06	0.05	0.04	0.22	0.24	0.40	0.27	0.31	0.10	0.03

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	473	582	573	430	477	1,130	11,260	6,283	3,601	2,381	1,034	463
MAX	905	766	945	661	806	1,693	26,720	11,780	6,049	3,354	1,385	724
(WY)	(2003)	(2003)	(2002)	(2002)	(2002)	(2003)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)
MIN	98.2	449	276	237	258	555	1,961	3,121	2,150	1,399	745	235
(WY)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)

05316580 MINNESOTA RIVER AT MORTON, MN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL TOTAL	606,170		465,618			
ANNUAL MEAN	1,661		1,276		2,389	
HIGHEST ANNUAL MEAN					4,252 2001	
LOWEST ANNUAL MEAN					1,276 2003	
HIGHEST DAILY MEAN	6,660	Apr 14	4,330	May 21	45,400	Apr 15, 2001
LOWEST DAILY MEAN	354	Oct 3	a144	Sep 29	a81	Oct 6, 2000
ANNUAL SEVEN-DAY MINIMUM	423	Dec 10	161	Sep 24	86	Oct 5, 2000
MAXIMUM PEAK FLOW			4,400	May 21	45,400	Apr 15, 2001
MAXIMUM PEAK STAGE			16.02	May 21	b29.26	Apr 16, 2001
INSTANTANEOUS LOW FLOW			c144	Sep 29	a80	Oct 6, 2000
ANNUAL RUNOFF (AC-FT)	1,202,000		923,600		1,730,000	
ANNUAL RUNOFF (CFSM)	0.19		0.14		0.27	
ANNUAL RUNOFF (INCHES)	2.51		1.93		3.62	
10 PERCENT EXCEEDS	4,480		2,890		4,980	
50 PERCENT EXCEEDS	946		799		814	
90 PERCENT EXCEEDS	552		306		251	

- a Due in part to regulation.
- b Maximum recorded, peak stage was less than 30.0 feet.
- c Minimum recorded, peak stage was less than 30.0 feet.
- d Minimum daily. Occurred during falling stage. Due in part to regulation.
- e Estimated.

