05211000 MISSISSIPPI RIVER AT GRAND RAPIDS, MN

LOCATION.--Lat 47°13'56", long 93°31'48", in SW¼NW¼ sec. 27, T.55 N., R.25 W., Itasca County, Hydrologic Unit 07010103, on left bank, in utility room of Blandin Paper Mill in Grand Rapids, 400 ft downstream from Blandin Dam, 400 ft upstream from bridge on U.S. Highway 169, 2.5 mi upstream from Prairie River, and at mile 1,182 upstream from Ohio River.

DRAINAGE AREA.--3,370 mi^2 (approximately).

PERIOD OF RECORD.--October 1883 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,242.03 ft above sea level (NGVD of 1929). See WSP 1914 for history of changes prior to Jan. 17, 1951.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Winnibigoshish Lake, Leech Lake, Pokegama Lake, Blandin Paper Mill (up to 16 ft^3/s diverted for paper production), and occasionally at low flow by power plant at Blandin Dam. Backwater from Prairie River occurs at times in most years.

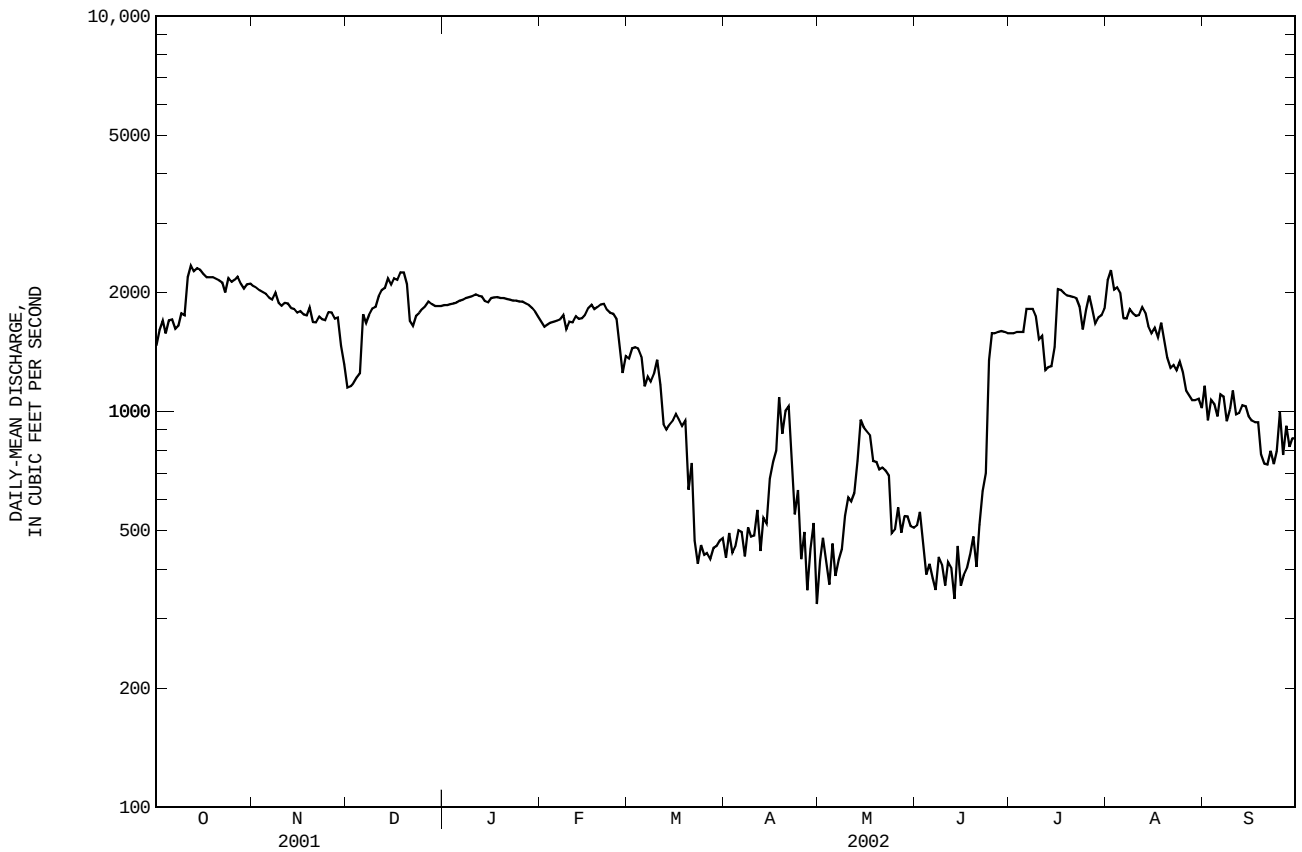
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	2080	e1150	e1860	e1690	1360	427	421	517	e1580	2150	1160
2	1610	2060	e1160	e1860	e1640	1450	493	480	559	e1580	2280	951
3	1700	2030	e1180	e1870	e1660	1460	440	423	466	e1590	2040	1070
4	1580	2010	e1220	e1880	e1680	1440	456	366	387	e1590	2060	1050
5	1700	1990	e1250	e1890	e1690	1380	502	464	412	e1590	2000	974
6	1710	1940	1760	e1910	e1700	1160	497	384	379	e1820	1730	1110
7	1620	1920	1680	e1920	e1710	1230	431	421	354	e1820	1720	1090
8	1650	2000	1760	e1940	1750	1190	510	449	430	e1820	1820	946
9	1770	1880	1820	e1950	1620	1250	484	546	411	e1750	1770	1010
10	1750	1850	1840	e1960	1690	1350	486	607	364	1520	1750	1130
11	2190	1890	1960	1980	1680	1170	564	594	417	1560	1760	983
12	2340	1880	2030	1960	1740	930	445	623	403	1280	1840	993
13	2270	1830	2050	1960	1720	902	540	752	336	1300	1780	1040
14	2310	1820	2180	1900	1720	929	522	955	457	1300	1650	1030
15	2290	1780	2100	1890	1760	949	677	914	363	1460	1580	975
16	2230	1800	2170	1940	1830	988	746	892	386	2040	1630	950
17	2190	1760	2150	1950	1870	958	797	871	402	2030	1540	e940
18	2190	1750	2250	e1950	1820	921	1090	751	436	2000	1680	e940
19	e2190	1840	2250	e1940	1840	948	880	747	483	1970	1530	e780
20	e2170	1690	e2100	e1940	1870	635	1000	714	405	1960	1370	e740
21	e2150	1680	e1700	e1930	1880	741	1030	723	517	1950	1290	735
22	e2120	1740	e1650	e1920	1810	472	791	710	e630	1930	1310	795
23	e2000	1710	e1750	e1910	1780	413	550	690	e700	1840	1280	738
24	2180	1710	e1780	e1910	1770	460	634	493	e1350	1610	1340	794
25	2130	1790	e1820	e1900	1720	434	423	504	e1580	1810	1260	997
26	2160	1780	e1850	e1900	1450	439	496	573	e1580	1960	1130	778
27	2200	1720	e1900	e1880	1250	425	354	495	e1590	1830	1100	921
28	2110	1730	e1870	e1860	1380	452	450	545	e1600	1670	e1070	814
29	2050	1470	e1850	e1830	---	457	523	544	e1590	1730	e1070	858
30	2100	1320	e1850	e1790	---	472	326	513	e1580	1750	1080	855
31	2110	---	e1850	e1740	---	478	---	509	---	1820	1020	---
TOTAL	62240	54450	55930	59020	47720	27843	17564	18673	21084	53460	48630	28147
MEAN	2008	1815	1804	1904	1704	898	585	602	703	1725	1569	938
MAX	2340	2080	2250	1980	1880	1460	1090	955	1600	2040	2280	1160
MIN	1470	1320	1150	1740	1250	413	326	366	336	1280	1020	735
AC-FT	123500	108000	110900	117100	94650	55230	34840	37040	41820	106000	96460	55830
CFSM	0.60	0.54	0.54	0.56	0.51	0.27	0.17	0.18	0.21	0.51	0.47	0.28
IN.	0.69	0.60	0.62	0.65	0.53	0.31	0.19	0.21	0.23	0.59	0.54	0.31

05211000 MISSISSIPPI RIVER AT GRAND RAPIDS, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1884 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1458	1357	1156	1141	1130	1074	1040	1163	1246	1372	1352	1396
MAX	3544	3259	2608	2410	2729	2762	3622	3668	3271	3363	4505	4438
(WY)	1902	1903	2000	1952	1945	1945	1901	1901	1962	1962	1905	1905
MIN	103	122	150	165	155	129	106	32.5	185	125	88.3	89.2
(WY)	1937	1937	1937	1937	1934	1937	1937	1949	1936	1961	1934	1934

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1884 - 2002	
ANNUAL TOTAL	811426		494761			
ANNUAL MEAN	2223		1356		1250a	
HIGHEST ANNUAL MEAN					2429	1906
LOWEST ANNUAL MEAN					193	1934
HIGHEST DAILY MEAN	3340	Jun 16	2340	Oct 12	8900	Sep 29 1914
LOWEST DAILY MEAN	200	Apr 11	326	Apr 30	0.00b	Oct 2 1948
ANNUAL SEVEN-DAY MINIMUM	804	Apr 8	388	Jun 7	24	May 9 1949
MAXIMUM PEAK FLOW			2470c	Aug 1	12500d	Sep 3 1948
MAXIMUM PEAK STAGE			9.35f	Jun 29	15.20g	Sep 3 1948
INSTANTANEOUS LOW FLOW			145h	Mar 22		
ANNUAL RUNOFF (AC-FT)	1609000		981400		905400	
ANNUAL RUNOFF (CFSM)	0.66		0.40		0.37	
ANNUAL RUNOFF (INCHES)	8.96		5.46		5.04	
10 PERCENT EXCEEDS	2860		2030		2360	
50 PERCENT EXCEEDS	2300		1580		1160	
90 PERCENT EXCEEDS	1490		457		311	

a Median of annual mean discharges is 1240 ft^3/s.
b Many days, several years.
c Gage height, 7.16 ft.
d From rating curve extended above 4500 ft^3/s.
e Estimated.
f Backwater from Prairie River.
g From floodmark; result of dam failure.
h Result of regulation.