

UPPER MISSISSIPPI RIVER BASIN

05211000 MISSISSIPPI RIVER AT GRAND RAPIDS, MN

LOCATION.--Lat 47° 13'56", long 93° 31'48", in SW1/4NW1/4 sec. 21, T.55 N., R.25 W., Itasca County, Hydrologic Unit 07010103, on left bank, in super-calendar 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 mi², approximately.

PERIOD OF RECORD.--October 1883 to current year. Monthly discharge only for some periods, published in WSP 1308. Published as "at Pokegama Dam near Grand Rapids" 1942-44.

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

REMARKS.--Records fair. Flow regulated by Winnibigoshish Lake (station 05201000), Leech Lake (station 05206000), Pokegama Lake (station 05210500) and occasionally at low flow by power plant at Blandin Dam. Backwater from Prairie River occurs at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	607	2040	e2640	e2260	e2290	e2400	2630	2980	1990
2110	2650	2200							
2	877	2350	e2650	e2200	e2280	e2390	2590	3040	2020
2210	2560	2160							
3	828	2380	e2700	e2200	e2270	e2380	2640	3050	2050
2230	2530	2180							
4	751	2350	e2690	e2200	e2450	e2380	2180	2960	1960
2470	2630	2160							
5	799	2380	e2680	e2220	e2430	e2360	870	2890	2010
2500	2670	2170							
6	753	2550	e2630	e2220	e2410	e2330	757	2930	1940
2560	2550	2190							
7	775	2560	e2600	e2200	e2410	e2330	561	2910	1950
2610	2580	2200							
8	752	e2550	e2590	e2190	e2380	e2330	625	2880	2020
2750	2510	2140							
9	697	e2540	e2600	e2190	e2380	e2310	e900	2790	1880
2770	2560	2180							
10	779	e2530	e2640	e2180	e2380	e2290	e1800	2770	1780
2730	2580	2190							

11	841	e2530	e2750	e2170	e2430	2280	e2320	2740	1860
2730	2460	2230							
12	911	e2520	e2740	e2170	e2410	2250	e2530	2520	1770
2670	2350	2170							
13	896	e2510	e2730	e2170	e2410	2230	e2800	2280	1720
2770	2310	2180							
14	897	e2600	e2740	e2170	e2410	2270	e3000	2170	1620
2820	1960	2160							
15	899	e2480	e2740	e2170	e2410	2320	e2950	2180	1630
3030	2030	2170							
16	885	e2490	e2730	e2170	e2410	2360	e2900	2180	1610
3060	2110	2280							
17	1120	e2490	e2730	e2150	e2370	2380	2870	2120	1570
3170	2050	2360							
18	1260	e2500	e2730	e2150	e2330	2280	2760	2090	1700
3260	2190	2270							
19	1420	e2520	e2720	e2160	e2420	2240	2420	2180	1590
3120	2390	2240							
20	1410	e2540	e2690	e2160	e2400	2230	2390	2310	1620
3000	2570	2210							
21	1450	e2700	e2640	e2160	e2400	2230	2510	2280	1610
2930	2510	2200							
22	1370	e2680	e2620	e2220	e2400	2230	2710	2180	1550
2820	2480	2290							
23	1440	e2680	e2590	e2220	e2380	2270	2750	2100	1730
2730	2460	2270							
24	1670	e2670	e2530	e2220	e2380	2270	2750	2090	1800
2720	2470	2170							
25	1780	e2630	e2480	e2220	e2400	2290	2860	2140	1980
2710	2590	2300							
26	1790	e2600	e2400	e2220	e2400	2280	2900	2120	2180
2720	2500	2180							
27	1800	e2600	e2340	e2210	e2400	2340	2930	2060	2190
2730	2470	2200							
28	1720	e2600	e2300	e2210	e2400	2410	3010	2050	1970
2810	2420	2230							
29	1800	e2620	e2270	e2210	---	2540	3080	2030	2010
2820	2260	2230							
30	1880	e2640	e2270	e2210	---	2650	3070	2060	2110
2820	2120	2230							
31	1820	---	e2270	e2380	---	2640	---	2050	---
2650	2190	---							
TOTAL	36677	75830	80430	68180	66840	72490	71063	75130	55420
85030	74710	66340							
MEAN	1183	2528	2595	2199	2387	2338	2369	2424	1847
2743	2410	2211							
MAX	1880	2700	2750	2380	2450	2650	3080	3050	2190
3260	2670	2360							
MIN	607	2040	2270	2150	2270	2230	561	2030	1550
2110	1960	2140							

AC-FT	72750	150400	159500	135200	132600	143800	141000	149000	109900
168700	148200	131600							
CFSM	.35	.75	.77	.65	.71	.69	.70	.72	.55
.81	.72	.66							
IN.	.40	.84	.89	.75	.74	.80	.78	.83	.61
.94	.82	.73							

o e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	1432	1586	1486	1494	1498	1412	1226	1315	1331
1425	1275	1254							
MAX	2865	2528	2595	2410	2729	2762	3442	3026	3271
3363	3711	3542							
(WY)	1986	1997	1997	1952	1945	1945	1945	1979	1962
1962	1950	1950							
MIN	187	174	186	168	177	198	247	32.5	206
125	98.3	195							
(WY)	1977	1977	1977	1977	1977	1977	1959	1949	1988
1961	1961	1976							

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1942 - 1997

ANNUAL TOTAL	701527	828140		
ANNUAL MEAN	1917	2269		
1394a				
HIGHEST ANNUAL MEAN				
2269	1997			
LOWEST ANNUAL MEAN				
277	1977			
HIGHEST DAILY MEAN	3410	May 7	3260	Jul 18
4610	Apr 17	1969		
LOWEST DAILY MEAN	414	Sep 12	561	Apr 7
.00	Oct 2	1948		
ANNUAL SEVEN-DAY MINIMUM	482	Sep 11	758	Oct 4
24	May 9	1949		
INSTANTANEOUS PEAK FLOW			3360	Jul 18
12500b	Sep 3	1948		
INSTANTANEOUS PEAK STAGE			10.18c	Apr 13
15.20d	Sep 3	1948		
INSTANTANEOUS LOW FLOW			495e	Oct 1
10 PERCENT EXCEEDS	2690		2750	
2360				
50 PERCENT EXCEEDS	2160		2320	
1400				
90 PERCENT EXCEEDS	632		1650	

- a Average based on 114 years of record is 1210 ft³/s; median of annual mean discharges is 1100 ft³/s.
- b From rating curve extended above 4500 ft³/s.
- c Backwater from Prairie River.
- d From floodmark; caused by dam failure.
- e Result of regulation.