

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05331000 MISSISSIPPI RIVER AT ST. PAUL, MN

LOCATION.--LAT 44°56'01", long 93°06'20", in NE¹/₄NE¹/₄ sec.13, T. 28 N., R. 22 W., Ramsey County, Hydrologic Unit 07010206, on left bank in St. Paul, 100 ft upstream from Smith Ave. Bridge, 4.8 mi downstream from Minnesota River, and at mile 840.5 upstream from Ohio River.

DRAINAGE AREA.--36,800 mi² (approximately).

PERIOD OF RECORD.--Water year 1867-69, 1872-92 (annual maximums), March 1892 to current year (prior to 1901, fragmentary during some winters). Records prior to March 1892, published in the 19th Annual Report, Part 4, have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1308. Gage-height records (winter records incomplete) collected at same site since 1866 are contained in reports of U.S. Weather Bureau, War Department and Mississippi River Commission.

REVISED RECORDS.--WSP 285: 1892-96. WSP 715: Drainage area. WSP 875: 1938. WSP 895: 1939. WSP 1308: 1867(M). WSP 1508: 1897, 1898(M). 1903(M), 1917-18(M). 1928(M), 1929. WRD MN-74: 1973.

GAGE.--Water-stage recorder. Datum of gage is 683.62 ft above sea level (NGVD of 1929). Prior to Mar. 18, 1925, nonrecording gage at several sites within 300 ft of each other and 1.2 miles downstream of present site at present datum. Mar. 19, 1925 to June 24, 1999, recording gage 1.2 miles downstream of present site at present datum. Since September 1938, auxiliary water-stage recorder 5.6 mi downstream.

REMARKS.--Records good to fair except those for estimated days, which are poor. Flow-routing techniques were used from Oct. 1, 2000 to April 5, 2001 and from July 5 to Sept. 30, 2001. Routed discharges are considered fair. Slight regulation, except during extreme floods, by reservoirs on headquarters and by power plants. Beginning July 20, 1939, effluent from Minneapolis and St. Paul, which formerly entered the river above station, was diverted to a wastewater treatment plant, thence to river about 4 miles below station. Daily-mean discharge figures do not include this diversion.

COOPERATION.--Records of discharge from the Metro Plant wastewater treatment plant were provided by the Metropolitan Council - Environmental Services.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3370	6110	10300	e5720	e5600	e5160	10100	136000	52300	37800	e12100	6260
2	3440	6900	10200	e5730	e5490	e5230	11100	129000	51200	33900	e11700	5670
3	3800	7410	9230	e5780	e5370	e5300	14400	119000	49800	30400	11200	5620
4	3540	7380	8100	e5880	e5380	e5350	19400	109000	47500	28100	10700	5740
5	3310	7900	9360	e6020	e5490	e5340	24200	100000	45700	26400	10200	5660
6	3750	8200	7540	e6130	e5650	e5340	26600	93700	42800	24000	10200	5720
7	3630	9360	e6820	e6190	e5710	e5340	34600	88900	40200	22500	9440	5360
8	3770	10200	e5800	e6140	e5690	e5340	44100	83800	37800	21400	9340	5560
9	3860	10700	e5900	e6060	e5620	e5340	60300	79500	36100	20200	9060	5840
10	3770	11600	e6270	e5940	e5560	e5040	75000	77000	35300	19600	8820	5930
11	3740	12000	e5980	e5910	e5560	e5180	89900	74000	35500	17900	8210	5560
12	3680	12500	e5200	e6150	e5560	e5300	101000	71600	34800	16100	7910	5460
13	3830	12800	e5590	e6240	e5540	e5390	112000	68800	38000	15000	7630	5240
14	3850	13500	e5870	e6350	e5510	e5220	124000	66200	38400	14300	7520	4990
15	3880	13600	e5980	e6360	e5510	e5550	133000	63600	42500	13900	7300	5080
16	4060	13800	e6010	e6350	e5490	e5690	137000	60800	48000	13500	7150	4730
17	3940	13900	e6060	e6210	e5440	e5850	139000	57700	51700	12700	7190	4810
18	3930	13700	e6130	e6060	e5420	e5860	142000	54700	56000	13200	7140	5010
19	3900	13300	e6220	e5970	e5410	e5960	141000	52100	58900	13300	7510	4710
20	4390	12900	e6270	e5870	e5430	e6160	138000	49700	63000	12000	7040	5020
21	4570	12500	e6250	e5700	e5630	e6270	133000	48800	67700	11800	6710	4760
22	4860	11300	e6200	e5620	e5420	e6340	129000	47900	70200	12200	6700	5230
23	4920	10100	e6120	e5710	e5430	e6530	125000	47200	70100	12300	6670	5140
24	5210	9260	e6050	e5840	e5530	e6660	125000	46000	67900	13100	6780	5170
25	4980	9140	e5940	e5740	e5520	e6450	127000	47600	64600	13900	6430	5300
26	5400	9590	e5890	e5840	e5510	e7020	129000	49700	60200	14600	6270	4780
27	5440	10000	e5860	e5630	e5420	e6820	132000	51200	56200	15200	6010	4730
28	5250	10100	e5800	e5520	e5250	e7080	138000	52000	51500	14000	5820	5000
29	5270	9660	e5770	e5710	---	e7450	142000	52400	46800	14100	5630	5460
30	5310	9830	e5750	e5510	---	e8090	141000	52600	42600	13700	5500	4340
31	4970	---	e5740	e5500	---	9180	---	52700	---	e12800	5940	---
TOTAL	131620	319240	204200	183380	154140	186830	2897700	2183200	1503300	553900	245820	157880
MEAN	4246	10640	6587	5915	5505	6027	96590	70430	50110	17870	7930	5263
MAX	5440	13900	10300	6360	5710	9180	142000	136000	70200	37800	12100	6260
MIN	3310	6110	5200	5500	5250	5040	10100	46000	34800	11800	5500	4340
AC-FT	261100	633200	405000	363700	305700	370600	5748000	4330000	2982000	1099000	487600	313200
CFSM	.12	.29	.18	.16	.15	.16	2.62	1.91	1.36	.49	.22	.14
IN.	.13	.32	.21	.19	.16	.19	2.93	2.21	1.52	.56	.25	.16
+	306	319	311	310	299	327	436	402	434	351	300	310
‡MEAN	4550	11000	6900	6220	5800	6350	97000	70800	50500	18200	8230	5570
‡CFSM	.13	.30	.19	.17	.16	.17	2.63	1.92	1.37	.50	.23	.15
‡IN	.14	.33	.22	.20	.17	.20	2.94	2.22	1.53	.57	.26	.17

‡ ANNUAL SUMMARY WTR. YR. 01 TOTAL 8845400 MEAN 11680 MAX(DAILY) 142000 MIN(DAILY) 3620 CFSM .28 IN 8.95

05331000 MISSISSIPPI RIVER AT ST. PAUL, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8553	7922	5730	4632	4603	11180	26630	21380	18500	14520	8922	8041
MAX	38210	27660	16080	11500	14700	43240	96590	70430	57170	73590	42550	34380
(WY)	1987	1972	1983	1983	1966	1983	2001	2001	1993	1993	1993	1986
MIN	1289	1348	1277	1097	1300	1757	3421	3085	1980	1272	864	1143
(WY)	1937	1937	1935	1935	1895	1940	1895	1934	1934	1934	1934	1934

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1892 - 2001
ANNUAL TOTAL	3399900	8721210	
ANNUAL MEAN	9289	23890	11800
HIGHEST ANNUAL MEAN			29580
LOWEST ANNUAL MEAN			1935
HIGHEST DAILY MEAN	24600	Jul 17	142000
LOWEST DAILY MEAN	3240	Sep 24	3310
ANNUAL SEVEN-DAY MINIMUM	3460	Sep 26	3550
MAXIMUM PEAK FLOW			143000a
MAXIMUM PEAK STAGE			23.76
ANNUAL RUNOFF (AC-FT)	6744000	17300000	8546000
ANNUAL RUNOFF (CFSM)	.25	.65	.32
ANNUAL RUNOFF (INCHES)	3.44	8.82	4.36
10 PERCENT EXCEEDS	16800	68300	27600
50 PERCENT EXCEEDS	7860	6820	7220
90 PERCENT EXCEEDS	4010	5030	2740

a Also occurred April 29.
 + Diversion, in cubic feet per second, from wastewater treatment plant.
 † Adjusted for discharges from wastewater treatment plant.
 e Estimated.

